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PRATT & WHITNEY
Voluntary Corrective Action Program
Progress Report for Third Quarter - 2001

PREPARED FOR

U.S. EPA Region I
JFK Federal Building
Boston, MA

20th Progress Report

October 2001



Loureiro Engineering Associates, Inc.

October 12, 2001

U.S. EPA New England - Region I

Mail Code HBT

One Congress Street, Suite 1100

Boston, MA 02114-2023

Attn.: Mr. Ernest Waterman

**RE: Twentieth Progress Report
Pratt & Whitney Voluntary Corrective Action Program
LEA Comm. No. 68VA108**

Dear Mr. Waterman:

Please find enclosed four copies of our twentieth Voluntary Corrective Action Program progress report. As discussed, we will be submitting similar reports on a quarterly basis.

If you have any questions, please call me at (860) 747-6181.

Sincerely,

LOUREIRO ENGINEERING ASSOCIATES, INC.

Jeffrey J. Loureiro, P.E.
President

pc: Lauren Levine, United Technologies Corporation
David Ringquist, CT DEP
Manu Sharma, Gradient Corporation

**PRATT & WHITNEY
VOLUNTARY CORRECTIVE ACTION PROGRAM
PROGRESS REPORT FOR THIRD QUARTER 2001**

Prepared for

**U.S. EPA New England - Region I
JFK Federal Building
Boston, MA**

October 2001

Table of Contents

	Page
Section 1.0 Introduction	1
Section 2.0 Completed Investigation Activities (Last Three Months)	3
Section 3.0 Planned Activities (Next Three Months)	5
Section 4.0 Interim Measures	7

FIGURES

Figure 1 VCAP Timeline

APPENDICES

- Appendix A Design Process Review Documentation
- Appendix B Evaluation For Main Plant/Willgoos Jet Fuel Pipelines And Main Plant/Colt Street Wastewater Pipelines – 400 Main Street, East Hartford
- Appendix C Indoor Air Monitoring In Support of VCAP - Willgoos

ACRONYMS

CT DEP	Connecticut Department of Environmental Protection
DPR	Design Process Review
EI	Environmental Indicator
ETAL	Experimental Test Airport Laboratory
EPA	Environmental Protection Agency, Region I
LEA	Loureiro Engineering Associates, Inc.
ORO	Southington Overhaul & Repair Operations Facility
PAH	Polynuclear Aromatic Hydrocarbons
RCRA	Resource Conservation and Recovery Act
TM	Technical Memorandum
TPH	Total Petroleum Hydrocarbons
USTM	Unit-Specific Technical Memorandum
UTC	United Technologies Corporation
VCAP	Voluntary Corrective Action Program
VOCs	Volatile Organic Compounds

**UNITED TECHNOLOGIES CORPORATION
PRATT & WHITNEY
Voluntary Corrective Action Program
Progress Report for Third Quarter 2001**

1. INTRODUCTION

1.1 General

This progress report is the twentieth (20th) in a series of progress reports to be prepared and issued on a quarterly basis during the Voluntary Corrective Action Program (VCAP). The progress reports are intended to provide the Environmental Protection Agency (EPA) with an overview of (1) the work performed during the reporting period, (2) a look ahead at activities planned for the next reporting period, and (3) the progress of interim measures being implemented. The progress reports also serve as the vehicle for conveying minutes of the semiannual progress meetings with EPA and for summarizing key program issues that have arisen during the reporting period. The progress reports are not intended as a substitute for technical reports summarizing investigation and/or remediation activities, which will be prepared as appropriate throughout the course of the Program. Please see the individual site discussions for mention of any impending or submitted technical reports.

1.2 VCAP Schedule and EPA Comments

A revised VCAP schedule is provided in Figure 1. The completion date for achieving stabilization at the North Haven facility is projected to be December 31, 2001 with revised Environmental Indicator (EI) documents submitted in May 2001. Additionally, revised EI documents for the Willgoos facility will be submitted upon receipt of final EPA comments. The completion date for stabilization at the Willgoos facility is projected as December 31, 2001. No other changes were made in the schedule. It is anticipated that completion of stabilization activities at all facilities will occur by the December 31, 2002. No formal EPA comments were received during this reporting period.

As requested, a flowchart documenting the Design Process Review (DPR) and the associated DPR Request Form are provided in **Appendix A**.

1.3 Semiannual Progress Meeting

The latest Semiannual Progress Meeting was held on June 15, 2001 and an outline of meeting notes was provided on the nineteenth (19th) Progress Report. The next meeting is planned for December 2001.

2. COMPLETED INVESTIGATION ACTIVITIES (LAST THREE MONTHS)

This section provides a brief description of the investigation activities undertaken at each site during the last three months. Maps showing sampling locations updated through the reporting period are provided in the Appendices along with laboratory analytical data tables inclusive of data received through the reporting period, as appropriate.

2.1 East Hartford

2.1.1 Klondike

EPA, United Technologies Corporation (UTC), and Loureiro Engineering Associates (LEA) have been working cooperatively in the preparation of the report for the Airport/Klondike area. For this reason, and to avoid duplication, no additional information is provided in this Progress Report.

2.1.2 Main Plant

Construction activities were initiated for the Willow Brook and Willow Brook Pond remediation on July 2, 2001. Activities completed during this reporting period include the installation of temporary fence, installation of permanent fencing along the northern perimeter of the project site area, lowering of the water level in Willow Brook Pond, clearing and grubbing activities in the western and eastern portions of the site, construction of decontamination areas, construction of soil staging bins, installation and activation of the by-pass channel, demolition of the process water facility and associated structures, the excavation and offsite disposal of 5,741 tons of contaminated soil, sediment, and concrete, and the preparation and submission of the first quarterly progress report detailing the above activities. A copy of the progress report was mailed to EPA on September 26, 2001.

The Step 3 groundwater investigation at the Pratt & Whitney, 400 Main Street, East Hartford facility has been completed in accordance with the *Work Plan* submitted to the EPA on January 27, 2000 and revised on October 13, 2000. The results of the Step 3 investigation were presented in the report *Groundwater Investigation in Support of VCAP Risk Assessment (Step 3) – Pratt & Whitney, 400 Main Street, East Hartford CT*, dated September 2001.

In addition, during this reporting period Step 4 investigations were performed in accordance with the *Work Plan For Groundwater Investigation In Support Of VCAP Risk Assessment (Step 4)* submitted to the EPA in August 2001. The Step 4 investigation included the installation of permanent monitoring wells and screen points in the area near the Main Street and Willow Brook intersection. In addition, one permanent monitoring well pair was installed to the west of the ETAL area. The investigation intended to provide supplemental information in the vicinity of Willow Brook to assist in determining whether the Willow Brook channel acts as a pathway to contamination off-site and to determine the width of the plume at this location. In addition, the investigation intended to provide depth profiling information near the property line to the west of

the ETAL area. The results of the investigation, which is now completed, will be provided during the following reporting period.

The leak testing of inactive underground jet fuel lines from the Andrew Willgoos facility to the rear of the Main Plant and active underground wastewater lines from the Main Plant to the Waste Water Treatment Plant located on Colt Street has been completed. In addition, soil borings and screen point groundwater sampling was performed in close proximity to the jet fuel pipeline where a potential leak was identified. The pipeline leak testing data indicated that there are no releases to off-site properties from the pipelines. In fact, the only potential leak indicated is located on the Main Street Facility in the vicinity of the Engineering Tunnel and South Tank Farm. The subsequent soil and groundwater data collected in this area indicated a limited impact from inactive jet fuel pipeline No. 2, the location of which is within the capture zone of the Engineering Tunnel dewatering system. Based on these data, it is expected that the pipelines will not adversely affect stabilization of the Pratt & Whitney East Hartford Facility. A report describing the results of the investigations is included in **Appendix B**.

2.2 Willgoos

Written draft comments were received from the EPA regarding the March 2000 *Documentation of Environmental Indicator Determination (EID) for Current Human Exposures Under Control* at the Pratt & Whitney Willgoos facility located on Pent Road in East Hartford, Connecticut. The comments were received from the EPA as draft on August 15, 2001 and will be issued as final during the next reporting period. On September 6, 2001, revised draft drawings were transmitted to EPA for review and comment. On September 7, 2001, written responses and a draft revised EID for Current Human Exposures Under Control were electronically transmitted to EPA. On September 11, 2001, a complete hard copy of the revised Appendix and associated tables, figures and drawings were submitted to EPA for review and comment. On September 24, 2001, EPA transmitted its second set of draft comments that were revised to reflect changes as a result of the review of the data submitted during the period from September 6 to September 11, 2001. On September 25, 2001, EPA electronically transmitted redlined versions of the *EID for Current Human Exposures Under Control* and comments for use in preparation of a revised *EID for Current Human Exposures Under Control*. UTC is currently working on final revisions to the *EID for Current Human Exposures Under Control* for submission to EPA during the next reporting period.

An indoor air monitoring program was proposed to EPA and CT DEP on September 7, 2000, and revised and resubmitted on December 21, 2000 based on comments from EPA. Four monitoring events were performed at the facility in accordance with the proposed program on December 21, 2000; March 1, 2001; June 18, 2001 and more recently on September 21, 2001. The results of these monitoring rounds are included in **Appendix C**.

2.3 Colt Street – Stabilized

2.4 Rocky Hill– Stabilized

An indoor air monitoring program was proposed to EPA and CT DEP. An indoor air monitoring round was performed on April 3, 2001. The report was submitted to EPA during this reporting period.

The property was sold during this reporting period. Under a Connecticut Transfer Act Form III filing, Pratt & Whiney retained the obligation to investigate and remediate the site. The facility is currently vacant.

2.5 North Haven

Environmental Indicator reports for both *Current Human Exposures Under Control* and *Migration of Contaminated Groundwater Under Control* for the North Haven facility were submitted to EPA and CT DEP on March 28, 2000. UTC received verbal EPA comments during the VCAP semiannual meeting on June 15, 2000. A revision to the original submission was submitted to EPA on September 8, 2000. Supplemental comments on the Environmental Indicator reports were received during the November 3, 2000 VCAP semiannual meeting. The Environmental Indicator reports were revised and submitted to EPA in May 2001. At EPA's request, additional surface water samples from the Quinnipiac River were collected and the results submitted during this reporting period. EPA is currently reviewing the documents submitted.

2.6 Southington Manufacturing

During this reporting period, the property was transferred to Cherokee Southington, LLC and will no longer be addressed under the VCAP Program. Under a Connecticut Transfer Act Form III filing, the new owner is responsible for the investigation and remediation of the site.

3. PLANNED ACTIVITIES (NEXT THREE MONTHS)

This section provides a brief description of the investigation activities planned at each site during the next three months.

3.1 East Hartford

3.1.1 Klondike

Preparation of sections of the summary report documenting the Airport/Klondike investigation and remediation to satisfy the RCRA Corrective Action requirements will be continuing. Together with the sections of the summary report, presentation of Technical Memoranda (TMs) will continue during future review meetings. All proposed Unit-Specific Technical Memoranda (USTMs), which address the unit-specific soil investigations, have been submitted to EPA. Submission of the remaining sections of the summary report will continue and are expected to be completed by the end of this year.

EPA, UTC, and LEA continue to work cooperatively in the review of documents relating to the North Parcel of the Airport/Klondike. The documents include the North Parcel report (prepared by LEA documenting investigation/remediation activities performed at the following environmental units: former Silver Lane Pickle Company; the North Klondike Undeveloped Land Outside Storage Area; the North Klondike Undeveloped Land Soil Piles; the former Army Barracks Area; and the Rentschler Airport Area) and the Marin Report (prepared by Marin Environmental Inc. for the Connecticut Office of Policy and Management for the transfer of the Stadium parcel). We have received EPA comments on the Marin Report and will be submitting comments under a separate cover.

The North Parcel includes an approximately 72-acre parcel (Stadium Parcel) and an approximately 3-acre parcel (Supplemental Stadium Parcel) that have been transferred to the State of Connecticut for a football stadium. UTC has submitted a letter to EPA requesting that the EPA begin the process of releasing the Stadium Parcel from corrective action obligations, based on the prior investigation and EPA review, indicating that there are no environmental issues on that parcel.

3.1.2 Main Plant

Site activities associated with the remediation of Willow Brook and Willow Brook Pond began on July 2, 2001. Substantial completion of the project is estimated to occur by December 31, 2001. Planned activities to be performed during the next reporting period include the excavation and offsite disposal of contaminated soil and sediment within the limits of the project site and the construction of the various engineered controls within and immediately surrounding Willow Brook and Willow Brook Pond.

Additional groundwater investigations in support of the VCAP risk assessment (Step 4) have been completed at the East Hartford facility. The results of these investigations will be reported during the following reporting period.

3.2 Willgoos

Environmental Indicator reports for both *Current Human Exposures Under Control* and *Migration of Contaminated Groundwater Under Control* for the Willgoos facility were submitted to the CT DEP and the EPA on March 10, 2000. A supplement to the original submission was provided in July 7, 2000. A revised Current Documentation of *Environmental Indicator Determination Human Exposures Under Control* will be submitted to EPA during the next reporting period. United Technologies Corporation is awaiting EPA comments to the Documentation of *Environmental Indicator Determination Migration of Contaminated Groundwater Under Control* for the Willgoos facility.

Four indoor air monitoring events have been performed from December 21, 2000 to September 21, 2001 and a report summarizing the results obtained is included in Appendix C.

3.4 Colt Street– Stabilized

3.5 Rocky Hill– Stabilized

An indoor air monitoring event has been performed at the facility on April 3, 2001 and the results were submitted to EPA during this reporting period.

3.5 North Haven

Environmental Indicator reports for both *Human Exposures Under Control* and *Migration of Contaminated Groundwater Under Control* for the North Haven facility were submitted to the CT DEP and the EPA on March 28, 2000. A revision to the original submission was submitted on September 8, 2000.

Supplemental comments on the Environmental Indicator reports were received during the November 3, 2000 VCAP semiannual meeting. The Environmental Indicator reports were revised and submitted to EPA. Additionally, at EPA's request, additional surface water samples from the Quinnipiac River were collected and the results submitted during this reporting period. UTC is awaiting a determination from EPA.

3.6 Southington Manufacturing

The property has been transferred. The new owner is responsible for the investigation and remediation of the site. No further action will be performed by Pratt & Whitney.

4. INTERIM MEASURES

This section provides a summary of some of the interim measures undertaken during this VCAP progress-reporting period. United Technologies Corporation/Pratt & Whitney is continuing to collect information on interim measures performed at each site and will provide a summary of any additional interim measures identified in the subsequent progress reports.

No Interim Measures were performed at the East Hartford, Willgoos, Colt Street, Rocky Hill or North Haven facilities during this reporting period.

**US EPA New England
RCRA Document Management System (RDMS)
Image Target Sheet**

RDMS Document ID# 1081

Facility Name: PRATT & WHITNEY (MAIN STREET)

Phase Classification: R-5

**Document Title: VOLUNTARY CORRECTIVE ACTION
PROGRAM PROGRESS REPORT FOR THIRD QUARTER
2001 (10/12/01 TRANSMITTAL LETTER ATTACHED)
[PART 1 OF 2]**

Date of Document: 10/01/2001

Document Type: PROGRESS REPORT

Purpose of Target Sheet:

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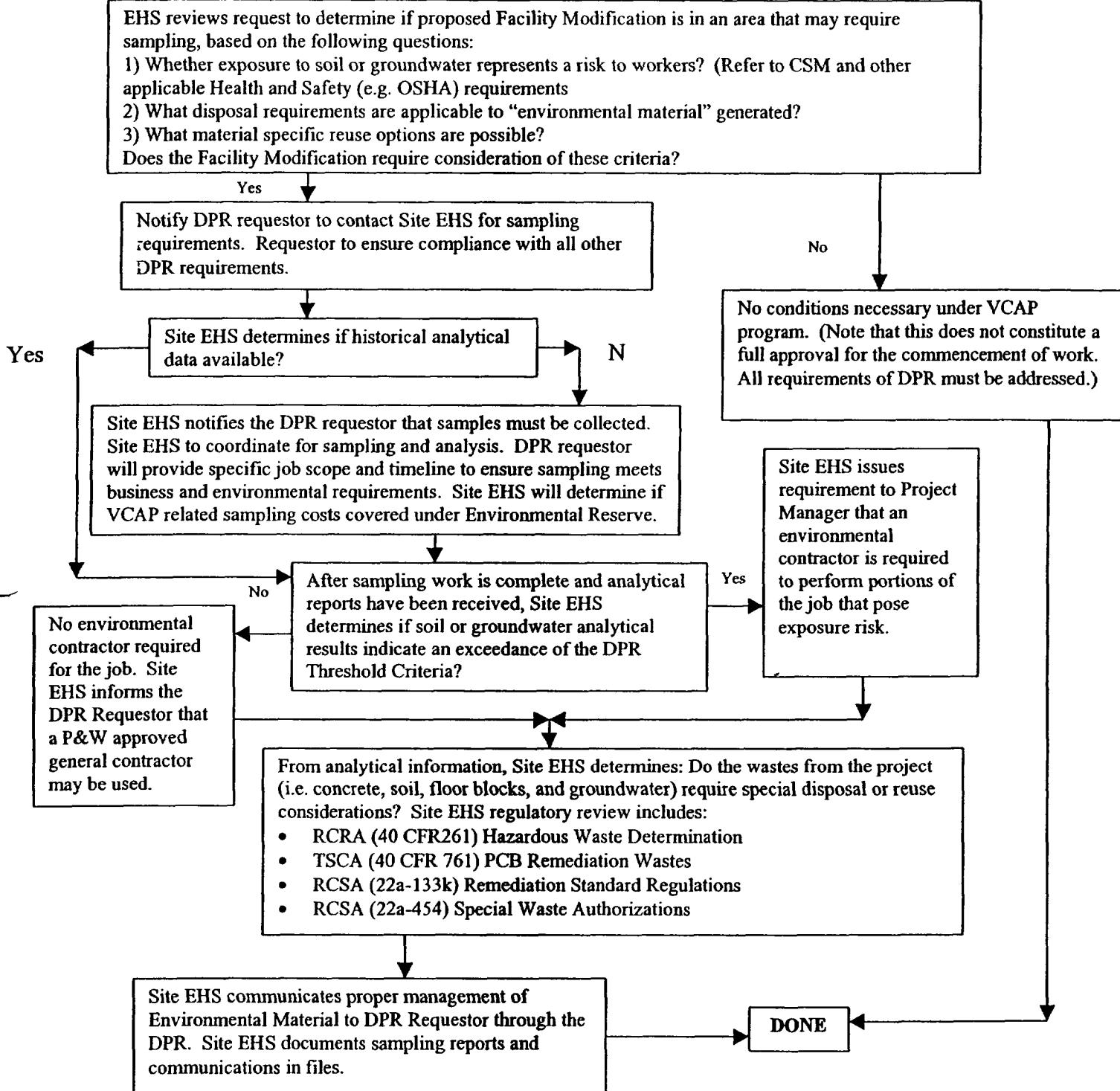
Comments:

**DRAWING 1: JET FUEL LINES - WILLGOOS TO MAIN
PLANT**

Appendix A

Design Process Review Documentation

A request for approval of a Facility Modification is received by EHS through the DPR system.



Design Process Review Request Form**Site: East Hartford**

Requestor's ID: _____ Name: _____ Date: _____
 Phone: _____ Mail Stop: _____ Fax: _____

Desc:

Attachments? (Circle One) Yes / No

DPR Category (Circle One):

Facility Modification	Modify Equipment	Move Equipment	Move Stack
New Material or Chemical	New Process	New use of Material/Chemical	Purchase New Equipment
Remove Material/Chemical	Surplus Equipment		

Send to DPR Team Name (Circle One):

CAN Team	EHS Central	Engine Center Team	Engine Services
F&S Team	HFB Team	MPE Team	Mfg. Eng. (Former D.O.)
TMC Team			

Effected Business Organization (Circle One):

MAJUNIT - Major Unit	PRODCTR - Product Center	PRODUNIT - Product Unit
BUSCTR - Business Center	BUSUNIT - Business Unit	DEPT - Department

Business Organization Name/Number: _____

Question	Answer	Yes	No	N/A	Don't Know
1. Will you be altering the facility in any way?		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Is this a new material or chemical, or are you using a chemical in a new way?		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Are painting and coating operations involved?		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Will the process/equipment vent outside?		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Will the process/equipment vent inside?		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Does the process use water?		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Does this process discharge water?		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Any known hazardous components or constituents (refrigerants, PCBs, lead, asbestos, radioactive sources, lasers, etc.)?		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Does the equipment being procured / moved require or contain fluids?		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Is waste generated?		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Does this process require excavation or concrete removal?		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Does this process require a pit or require filling an existing pit?		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Does this process require dewatering (i.e. pit excavation)		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. Will the work performed affect underground utilities?		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. Does this work create or remove confined space entry areas?		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. Does this process use compressed gas or compressed air?		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. Will this process require Lock Out / Tag Out?		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. Are machine guards required?		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. Will this process involve elevated work over 6' above a lower level?		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. Will a contractor and or certified rep be used?		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. Does this process have the potential to create oxygen rich or oxygen depleted atmosphere?		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Additional Information (Reference which question information pertains to): _____

Design Process Review Request Form**Site: East Hartford****Question**

22. Will any activity occur outside? (hoppers, rolloffs, container/equipment staging or storage, concrete)

Answer

Yes No N/A Don't Know

Additional Information (Reference which question information pertains to):

Complete form and contact your EH&S professional for Pre-Change approval before proceeding with change

Appendix B

**Evaluation For Main Plant/Willgoos Jet Fuel Pipelines And Main Plant /Colt Street
Wastewater Pipelines –**

400 Main Street, East Hartford

**EVALUATION
FOR
MAIN PLANT/WILLGOOS JET FUEL PIPELINES
AND
MAIN PLANT/COLT STREET WASTEWATER PIPELINES
East Hartford, Connecticut**

October 2001

Prepared for:

**UNITED TECHNOLOGIES CORPORATION
United Technologies Building
One Financial Plaza
Hartford, Connecticut 06101**

Prepared by:

**LOUREIRO ENGINEERING ASSOCIATES, INC.
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LEA Comm. No. 88UT008

TABLE OF CONTENTS

1.	INTRODUCTION	1-1
2.	FACILITY INFORMATION	2-1
2.1	Jet Fuel Pipelines	2-1
2.2	Wastewater Pipelines	2-2
3.	PIPELINE LEAK TESTING	3-1
3.1	Methodology Description	3-1
3.2	Pipeline Location	3-2
3.3	Vapor Probe Installation	3-2
3.4	Pressure Testing and Inoculation of Pipeline	3-3
3.5	Pipeline Testing	3-5
4.	SOIL AND GROUNDWATER SAMPLING	4-1
4.1	Soil Sampling Methodology	4-1
4.2	Groundwater Sampling Methodology	4-2
4.3	Soil and Groundwater Results	4-3
5.	SUMMARY	5-1

TABLES

Table 1	Summary of Sampling and Analytical Information
Table 2	Summary of Constituents Detected in Soil
Table 3	Summary of Analytical Results in Soil
Table 4	Summary of Constituents Detected in Groundwater
Table 5	Summary of Analytical Results in Groundwater

DRAWINGS

Drawing 1	Jet Fuel lines
Drawing 2	Wastewater Pipelines

APPENDICES

Appendix A	Summary of Tracer Research Analytical Results
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ACRONYMS

BTEX	benzene, toluene, ethylbenzene, and xylenes
BZ	Benzene
CFR	Code of Federal Regulations
CWTP	Concentrated Waste Treatment Plant
CSM	Conceptual Site Model
DEP	State of Connecticut Department of Environmental Protection
DI	Ductile Iron
DOW	Dilute Oily Waste
DPR	Design Process Review
DWW	Dilute Wastewater
EBZ	Ethylbenzene
EPA	United States Environmental Protection Agency
ETPH	Extractable Total Petroleum Hydrocarbons
GBPMC	GB Pollutant Mobility Criteria
IWTF	Industrial Wastewater Treatment Facility
LEA	Loureiro Engineering Associates, Inc.
LDS	Leak Detection System
MDC	Metropolitan District Commission
MOU	Memorandum of Understanding
NPDES	National Pollutant Discharge Elimination System
PCE	Tetrachloroethylene
PE	Polyethylene
PETG	Polyethylene terephthalate copolyester
PID	Photoionization Detector
P&W	Pratt & Whitney
QA	Quality Assurance
QC	Quality Control
RCRA	Resource Conservation and Recovery Act
RCSA	Regulations of Connecticut State Agencies
RDEC	Residential Direct Exposure Criteria
RSR	Remediation Standard Regulation
RVC	Residential Volatilization Criteria
SOP	Standard Operating Procedure
SPLP	Synthetic Precipitation Leaching Procedure
STL	Severn Trent Laboratories
SVOCs	Semivolatile Organic Compounds
SWPC	Surface Water Protection Criteria
TCA	1,1,1-Trichloroethane
TCE	Trichloroethylene
TCLP	Toxicity Characteristic Leaching Procedure
TL	Toluene
TPH	Total Petroleum Hydrocarbons
UST	Underground Storage Tank
VCAP	voluntary corrective action program
VOCs	Volatile Organic Compounds
XYL	Xylenes



UNITS

mg/kg	milligram per kilogram
$\mu\text{g}/\text{kg}$	microgram per kilogram
mg/l	milligram per liter
$\mu\text{g}/\text{l}$	microgram per liter

1. INTRODUCTION

The purpose of this project was to assess the integrity of the inter-plant pipelines on and between the P&W facilities in East Hartford, Connecticut. This assessment was undertaken as part of the stabilization effort at the East Hartford Main Street Facility. The stabilization effort is being addressed under the Voluntary Corrective Action Program (VCAP) between P&W and Region 1 of the United States Environmental Protection Agency (EPA). On July 17, 1996, P&W and EPA signed a Memorandum of Understanding (MOU) that outlines the principle components of the VCAP that includes stabilization as the primary objective.

The Main Street facility, the largest of the three East Hartford facilities, is primarily a manufacturing facility, and is located at 400 Main Street East Hartford, Connecticut. The Andrew Willgoos Gas Turbine Laboratory (Willgoos) facility is primarily a testing facility and is located on Pent Road in East Hartford, Connecticut. The Colt Street facility is a wastewater treatment facility serving the Main Street facility and is located on Colt Street in East Hartford, Connecticut. The pipelines addressed herein include the jet fuel pipelines between the Main Street facility and the Willgoos facility and the wastewater pipelines between the Main Street facility and the Colt Street facility. Additional background information on the construction, location, and use of the pipelines is included in Section 2.

To assess the stabilization of the pipelines, a determination had to be made on whether there had been any potential release(s) from the pipelines. If the potential for a release was identified, the potential impacts on soil and groundwater would then have to be evaluated. With the initial focus of the project being the determination as to whether there could have been any release(s) from the pipelines, a concern that was raised was the potential for other offsite contaminant sources (i.e., service station underground storage tanks, etc.) to be present in the vicinity of the pipelines. The presence of other potential sources could indicate that mitigation steps are necessary to achieve stabilization, but these steps may actually be the responsibility of other parties.

The sampling and analysis of environmental media (i.e., soil and groundwater) is the most direct means in determining whether there have been any release(s) from the pipelines. With media sampling being insufficient in determining the specific origin of the potential contaminant source, some type of leak testing methodology is appropriate to identify and locate potential release(s). In the event that any release(s) are identified using the leak testing methodology, media sampling can be conducted in the targeted areas to determine actual impacts to soil and groundwater. With the soil and groundwater sampling results, an evaluation of any mitigation steps necessary can then be performed to achieve stabilization under VCAP.



An evaluation of alternative leak testing methodologies was performed previously and the method selected and implemented is presented in Section 3. Based on known release location(s), data on the environmental media can be collected to determine the actual contaminant concentrations. A discussion of the environmental media sampling involving soil and groundwater sampling and analysis conducted is included in Section 4.



2. FACILITY INFORMATION

The Main Street facility occupies approximately 1097 acres of land in East Hartford, Connecticut. The design, manufacturing, assembly and testing of aircraft engines and engine components take place at the Main Street facility. The Site consists of the main factory complex, engine development and test facilities, a powerhouse, the Centralized Waste Storage and Transfer Facility, the Concentrated Waste Treatment Plant (CWTP), several office buildings, and several other auxiliary buildings.

The Willgoos facility occupies approximately 58 acres and is located on Pent Road in East Hartford, Connecticut. The Willgoos facility is a jet engine test facility used for the experimental testing of jet engines and jet engine components. Support/ancillary operations on Site include a fuel storage and distribution system and a laboratory. To support the jet engine testing and facility operations, the facility also has a fuel storage tank farm. The tank farm has a maximum storage capacity of several million gallons of fuel oil and jet fuel. In addition, there are smaller tanks for diesel fuel, gasoline, calibration fluids, and salvaged fuel.

The Colt Street facility occupies approximately 12 acres and is located on Colt Street in East Hartford, Connecticut. The Colt Street facility maintains an Industrial Wastewater Treatment Facility (IWTF) that receives wastewater via pipelines from the Main Street facility in East Hartford and discharges treated wastewater to the Connecticut River.

The property in the vicinity of the three P&W facilities in East Hartford, Connecticut and both the jet fuel pipelines and the wastewater pipelines is zoned for a mixture of residential, business and industrial uses. Drawings 1 and 2 include the nearby zoning uses as identified on the Town of East Hartford Zoning Maps, as compiled by the Metropolitan District Commission (MDC).

The areas adjacent to the Main Street facility are zoned Business (B-1) west of the facility along Main Street with a mixture of residences. The area to the south of the Main Street facility across Brewer Street is noted as Residential (R-3 and R-4). The Willgoos facility is located within an area zoned as industrial (I-3). The Colt Street facility is located within an area zoned as Business (B-1). More complete descriptions of the specific zoning classifications are included on Drawings 1 and 2.

2.1 Jet Fuel Pipelines

The jet fuel pipelines between the Main Street facility and the Willgoos facility consist of four lines constructed of tar-coated, carbon steel that were installed in the 1950's. The descriptions of the lines are as follows:



- Line No. 1: 6-inch diameter, approximately 4175-foot length
- Line No. 2: 4-inch diameter, approximately 4175-foot length
- Line Nos. 3,4: 4-inch diameter, approximately 4250-foot length.

Lines Nos. 1 through 4 were utilized to transfer jet fuel from bulk aboveground storage tanks at the Willgoos facility to underground storage tanks at the South Test Area of the Main Street facility. Line Nos. 1 and 2 run from a manifold pit at the Willgoos facility, under Route 2, along High Street and Main Street, onto Engineering Road to a manifold pit at the Main Street facility. When the Engineering Building was constructed in 1963 at the Main Street facility, a section of these two lines was abandoned and relocated around the area. Line Nos. 3 and 4 run from the manifold pit at the Willgoos facility, under Route 2, along Brewer Street, onto Test House Road to the manifold pit at the Main Street facility. The locations of the jet fuel pipelines are shown on Drawing 1.

Previously, P&W decided to eliminate the use of the jet fuel pipelines due to reductions in experimental testing. With the reduction in testing, bulk trucking from the Willgoos facility storage tanks was sufficient to supply the necessary fuel and negated the need for the fuel pipelines.

Lines 2 and 4 have reportedly been unused for many years. The exact dates and reasons for taking the lines out of service were unavailable. Available information consisting primarily of anecdotal information indicates that the lines may have been taken out of service because the integrity of the lines was suspect. Based on available records, Lines 1 and 3 were taken out of service in 1994. Prior to being taken out of service, these lines had been subjected to semiannual hydrostatic pressure tests that showed the lines were intact.

2.2 Wastewater Pipelines

Wastewaters generated at the Main Street facility are separated into two major categories for treatment and disposal, namely the concentrated and dilute waste streams. The dilute waste streams consist only of rinse waters from various wet chemical operations and the concentrated wastes include all other solutions. Both the dilute and concentrated wastes are segregated into acids, alkalies, chromes, cyanides, and oily wastes. Several dilute industrial wastewater and dilute oily waste collection and pumping systems have been installed to provide proper containment, storage and transfer of the various wastewaters to the CWTP at the Main Street facility and the IWTF at the Colt Street facility.



The wastewater pipelines between the Main Street facility and the Colt Street facility consist of three lines installed in 1978 with two lines that are currently active and one line that is currently inactive and reportedly has never been used. The continued use of these two pipelines is anticipated into the distant future. The locations of the wastewater pipelines are shown on Drawing 2.

The Dilute Wastewater (DWW) line is an 18-inch diameter, butt-welded polyethylene (PE) construction, approximately 4175-foot long and currently is utilized to transfer treated acid/alkaline wastes from the CWTP at the Main Street facility, along with untreated DWW from the factory area, to the IWTF at the Colt Street facility.

The Dilute Oily Waste (DOW) line is an 6-inch diameter, weld steel construction, approximately 4175-foot long and currently is utilized to transfer treated soluble oil wastes from the CWTP, along with untreated DOW from the factory area, to the IWTF at the Colt Street facility.

The wastewater lines have reportedly been tested once in the late 1980's after a failure of a portion of the DWW line in the vicinity of the C-1 Parking Area of the Main Street facility. Available information indicates that the line was repaired, tested, and returned to service. No other information about the failure or the response to the failure was available.

3. PIPELINE LEAK TESTING

To assess the stabilization of the pipelines, a determination had to be made on whether there had been any potential release(s) from the pipelines. If the potential for a release was identified, the potential impacts on soil and groundwater would then have to be evaluated. The sampling and analysis of environmental media (i.e., soil and groundwater) is the most direct means in determining whether there have been any release(s) from the pipelines. With media sampling being insufficient in determining the specific origin of the potential contaminant source, some type of leak testing methodology is appropriate to identify and locate potential release(s). In the event that any release(s) are identified using the leak testing methodology, media sampling can be conducted in the targeted areas to determine actual impacts to soil and groundwater.

An evaluation of pipeline leak testing technologies was previously performed to identify the technology most appropriate for this situation in order to obtain the most useful and accurate results. Methodologies evaluated included conventional pressure testing, volumetric testing, ultrasonic testing, tracer testing technology, and extensive soil testing. Due to the difficulties in performing a conventional pressure tests, inherent disadvantages of volumetric testing, the unproven nature of the ultrasonic testing, and the interference of other potential offsite sources, it was decided that the tracer technology was the most appropriate for the pipelines.

3.1 Methodology Description

The Tracer Tight® Pipeline Leak Detection System (LDS) is a unique method of underground precision leak detection whereby a volatile chemical tracer is added to the product storage and delivery system. For lines still in service, the tracer compound can be added constantly to the fluid in a line with continuous flow. Similarly, the tracer compound can be added to the fluid and the pipeline isolated for a period of time. If a leak is present in the product system, tracer-laden product leaks into the soil where the tracer evaporates out of the product and into the vapor (soil gas) in the surrounding soil. Determination of leakage is based on the criteria established in the Tracer Tight® third party evaluation, which meets the criteria set forth in National Fire Protection Association (NFPA) 329 for precision leak tests. The Tracer Tight® method has been evaluated by an independent third party and has been determined to exceed the EPA protocol of detecting a 0.05-gallon per hour leak with a probability of detection of 97 percent and of false alarm rate of 2.9 percent.

The Tracer Tight® method can also be utilized on empty lines. To accomplish the test, the tracer compounds, proprietary compounds for Tracer Tight®, must be charged into the pipelines along with a balance of an inert gas, typically nitrogen, to pressurize the lines. After a period of time,



typically twenty-four hours, monitoring for the presence of the tracer along the exterior of the pipeline can begin. Detection of the tracer indicates the presence and location of a leak.

To monitor along the exterior of the pipeline, the use of soil vapor probes and soil vapor sampling provides the greatest sensitivity in locating leaks. An advantage of the gaseous tracer compounds is that the soil vapor probes do not have to actually contact the pipelines and only need to be in close proximity to the pipelines. Since all of the pipelines are present as pairs of lines in the same pipe trench, both lines in a given pair can be tested at once with the use of different Tracer Tight® tracer compounds.

To minimize the possibility of problems caused by pockets of liquids, the pipelines should be cleared of remaining liquids with the use of a pipeline pig prior to performing the leak tests. Removal of residual liquids permits the tracer compound direct gaseous access to all portions of the pipeline. Fortunately, the Tracer Tight® method is only slightly affected by the presence of pockets of liquid. The Tracer Tight® tracer compounds will still diffuse through the pockets of liquid at a slower rate.

3.2 Pipeline Location

With the selection of Tracer Tight as the preferred leak testing methodology, the initial step for conducting the leak testing was the location of the pipelines in order to place the soil vapor probes along the pipelines. Prior to the installation of vapor probes, local utility companies located and marked out underground utilities in the vicinity of the pipelines. The jet fuel pipelines and wastewater pipelines were located by Heitkamp, Inc. using an electromagnetic transmitter and receiver device in conjunction with existing drawings and oversight by Loureiro Engineering Associates, Inc. (LEA) personnel. The field markings of the pipeline locations were later surveyed by LEA personnel for the preparation of the reference drawings.

3.3 Vapor Probe Installation

From September 28, 2000 to December 20, 2000, LEA personnel in conjunction with Tracer personnel installed the vapor probes along approximately 16,800 feet of jet fuel pipelines and 8,400 feet of wastewater pipelines located at and between the Main Street facility, the Willgoos facility, and the Colt Street Facility. The vapor probes were installed approximately every 20 feet along the pipelines. The vapor probes were typically 2-foot long polyvinyl chloride (PVC) probes equipped with a threaded cap. Four-foot vapor probes were installed along Willow Street extension from Main Street to the Route 2 underpass where these sections of the pipelines were greater than ten feet below grade. The vapor probes were installed using a hand-held slam bar



device. A Hilti hammer drill or a Geoprobe® drilling rig were used to penetrate blacktop or concrete surface areas prior to installation of the vapor probes.

Each of the vapor probes was labeled using marking paint. The bottom of the vapor probe caps were numbered using a black permanent marker starting with vapor probe #1 at the Main Street facility's jet fuel pipeline pit and proceeding south towards Brewer Street (Jet Fuel Lines Nos. 3 and 4). The sequentially numbered vapor probes proceeded west on Brewer Street south on Main Street at the 7-Eleven and west to Route 2. Vapor probes were not installed along the Route 2 crossing because the jet fuel pipeline is sleeved beneath the highway. The sequentially numbered vapor probes continued across High Street in a westerly direction down Pent Road into the Willgoos facility to the Jet-A fuel pipeline pit ending at vapor probe #202.

The vapor probe numbers continued with #203 at the point where the four underground jet fuel lines (Jet Fuel Line Nos. 1 and 2) split in a northeastern direction under the High Street exit of Route 2. The pipelines proceed north along High Street until crossing under High Street and Main Street into the front parking lot of the Engineering Building. Vapor probes were not installed along the High Street and Main Street crossing because the jet fuel pipeline is also sleeved in this location. The sample probes continued sequentially in a northerly direction to Engineering Road and then east at which point all of the underground jet fuel pipelines reunite in the vicinity of vapor probes #327 and #16. The vapor probe locations for the jet fuel pipelines are shown on Drawing 1.

For the wastewater pipelines, vapor probe numbering starts with vapor probe #328, approximately twenty feet north of E Building outside of the pretreatment facility. The vapor probe numbering continued sequentially north to the transfer pump house and then proceeded west in front of the Centralized Waste Storage and Transfer Facility. Continuing west, sequentially numbered vapor probes pass in front of Office Buildings E-1 and E-2 and along side Willow Brook Road, across Main Street and down Willow Street under the Route 2 bridge. The last vapor probe (#507) was installed at the IWTF on Colt Street. The vapor probe locations for the wastewater pipelines are shown on Drawing 2.

3.4 Pressure Testing and Inoculation of Pipeline

To properly determine the amount of tracer necessary when inoculating a pipeline with flow, the calculated daily throughput of the pipeline must be determined first. The volume of tracer needed for the wastewater pipelines was determined by calculating the daily throughput in barrels multiplied by 0.35 pounds of tracer divided by 1,000 barrels. For empty or unused pipelines, such as the jet fuel pipelines, the amount of tracer needed to properly inoculate the pipeline was calculated using this formula:



$$\text{Tracer @1 ppm} = 1.21 \times 10^{-10} (\text{inside pipe diameter in inches})^2 X (\text{pipeline length in feet}) \\ X (\text{operating pressure in pounds per square inch} + 14)$$

On December 7, 2000, Tracer personnel inoculated the DOW wastewater pipeline using proprietary compound Tracer D. This was accomplished by directly injecting the tracer into the sump pit present inside the pump house building. P&W personnel then discharged the sump pit contents to the pipeline and the treatment facility with the transfer pump. A second application of Tracer D by the same means was added in the afternoon to ensure inoculation of the pipeline. The DWW wastewater pipeline was inoculated the same day with proprietary compound Tracer C by injecting the tracer using a small cylinder directly into the headspace of the pipeline through a pipefitting. This procedure was performed inside the plating room of E Building.

Inoculation of the pipelines was completed using enough tracer to address 72 hours of pipeline operation. Both proprietary compounds Tracer C and Tracer D were later confirmed at the downstream end of the wastewater pipelines by taking air samples from above the respective receiving tanks at the Colt Street facility. The air samples were collected using a syringe and discharging four syringe volumes into a sample canister. Tracer personnel confirmed the completion of the inoculation by injecting the air samples from the canister into a portable gas chromatograph (GC) located on site.

On December 8, 2000, Tracer personnel inoculated jet fuel pipeline No. 1 using proprietary compound Tracer A. This was completed by injecting the tracer into a pipefitting attached to the pipeline in a vault at the Main Street facility. Nitrogen from a gas cylinder was attached to the pipefitting to then force the tracer through the pipeline. At the Willgoos facility, approximately 15 feet of 0.5-inch tygon tubing was attached to a pipefitting on jet fuel pipeline No. 1. The end of the tubing was placed into a 55-gallon drum to collect any jet fuel still inside the pipe that was forced out by pressurizing the pipeline. The presence of tracer was confirmed at the Willgoos facility end by taking air samples from pipeline. The air sample was collected using a syringe and discharging four syringe volumes into a sample canister. Tracer personnel confirmed the completion of the inoculation by injecting the air sample from the canister into a portable GC located on site. To maintain the pressure on the pipeline, the jet fuel pipeline was capped after confirmation of the inoculation.

On Saturday, December 9, 2000, proprietary compound Tracer W was injected into jet fuel pipeline No.2 using the same method as described above for jet fuel pipeline No. 1. While inoculating jet fuel pipeline No. 2, approximately 1265 gallons of jet fuel was recovered into 55-gallon drums. On Monday, December 11, 2000, proprietary compound Tracer C was injected into jet fuel pipeline No. 3 as described above for jet fuel pipelines Nos. 1 and 2. Approximately



10 gallons of jet fuel was recovered from jet fuel pipeline No. 3 and contained in a 55-gallon drum. Tracer personnel confirmed inoculation of jet fuel pipelines Nos. 2 and 3 by taking and analyzing air samples from the pipelines.

On Saturday, December 9, 2000, proprietary compound Tracer D was injected into jet fuel pipeline No.4 using the same method as described above. While inoculating jet fuel pipeline No. 4, a suspected blockage was identified in the pipeline as noted by an increase in the pressure during inoculation. Initially, Tracer D was injected into the pipeline from the Main Street end along with nitrogen until the pressure increased to 25 pounds per square inch (psi). When the pressure reached 25 psi, the addition of nitrogen was discontinued and that end of the pipeline was plugged. Tracer D was then injected into the pipeline from the Willgoos end along with nitrogen until the pressure reached 25 psi.

To evaluate the suspected blockage of jet fuel pipeline No. 4, additional inspections were performed in the valve pit located at the Main Street facility. The valve pit contains the four pipelines Nos. 1, 2, 3, and 4 along with a pipe labeled "salvage fuel". On February 27, 2001, a blind flange was removed from pipeline No. 4 in the valve pit at the Main Street facility and a visual inspection indicated a 90-degree elbow approximately two feet away. The observation of the 90-degree elbow was unexpected, as pipeline No. 4 should continue parallel to pipelines Nos. 1, 2, and 3.

On March 12, 2001, three air samples were collected from a flange from the pipeline labeled as salvage fuel. These three samples were sent to the Tracer Laboratory in Tucson, Arizona for analysis of Tracer D. Results verified detectable amounts of Tracer D in this pipeline indicating that the salvage fuel pipeline and pipeline No. 4 were incorrectly labeled in the Main Street valve pit. Tracer indicated that the original inoculation of pipeline No.4 at the Willgoos facility was satisfactory as the inoculation was confirmed with the identification of Tracer D at the Main Street facility.

3.5 Pipeline Testing

After completion of the inoculation of the pipelines, Tracer personnel collected soil gas samples from vapor probes that had been installed along the pipelines. From December 7, 2000 to February 8, 2001, soil gas samples were collected from the vapor probes installed for this project. The soil gas samples were collected with the use of a syringe and the collection and placement of three syringe volumes into vacuum canisters. The canisters were sent to the Tracer Research Laboratory in Tucson, Arizona and analyzed for the chemical tracers.



The analytical results of the Tracer Tight[®] leak tests performed on the pipelines are included in Appendix A. The data is presented by sampling location (i.e., vapor probe location) and analyte concentration (i.e., tracer concentration). When a compound was not detected, the value was presented as a “less than number” (e.g. <0.1 micrograms per liter). The soil gas samples were analyzed for Tracer A, Tracer W, Tracer C, Tracer D and total volatile hydrocarbons (TVHC). Leakage is based on the presence or absence of tracer. The criteria used for the classification of a leak is based on a passing criteria with a tracer concentration less than 0.1 micrograms per liter ($\mu\text{g/l}$) or a failure criteria with a tracer concentration greater than 0.1 $\mu\text{g/l}$.

Two rounds of soil gas samples were collected and analyzed from all of the vapor probes located along the jet fuel pipelines. Tracer compounds were not detected in any of the vapor probes with the exception of concentrations of Tracer W detected in vapor probes #3, 4, 320, and 321. The highest concentration of Tracer W of 4.7623 $\mu\text{g/l}$ was detected in the soil gas sample from vapor probe #3. A tracer concentration of 0.1 $\mu\text{g/l}$ or higher is a possible indication of a 0.05 or greater gallon per hour leak.

Additional samples were collected from vapor probes #3, 4, 217, 320 and 321 along jet fuel pipeline No. 2. This pipeline was inoculated to a tracer concentration corresponding to one times the volume of the system. Additional soil gas samples were collected at intervals of 48 hours, 14 days and 22 days after inoculation. The concentration of Tracer W gas in vapor probes #3 and 4 remained at an approximate concentration of 1 $\mu\text{g/l}$ or higher. The concentrations of Tracer W at the remaining vapor probe locations were at or below the failure threshold concentration of 0.1 $\mu\text{g/l}$. Therefore, jet fuel pipeline No. 2 does not pass the Tracer Tight test at probe locations 3 and 4. Jet fuel pipelines Nos. 1, 3 and 4 passed the Tracer leak test.

One round of soil gas samples was collected and analyzed from all of the vapor probes located along the wastewater lines. The initial sample analysis of the round of soil gas samples indicated the possibility of a DOW pipeline leak at vapor probe #349, 350 and 351 with concentrations of Tracer D of 0.01, 0.02 and 0.18 $\mu\text{g/l}$, respectively. Tracer Research personnel recommended that the area of these vapor probes be investigated further by re-sampling the vapor probes. Since the DOW pipeline is an active pipeline, it was decided that the pipeline should be investigated immediately.

Using an excavator, the DOW pipeline was uncovered on January 25, 2001 to allow for the visual inspection of the pipeline between vapor probes #348 and 352. The area uncovered included a pipe joint and several small areas of damaged pipe coating that had been patched. Visibly, there was no clear indication of a leak. According to Tracer, the concentration of Tracer D observed at just above the failure criteria may result in a leak that is so small that it may not be

visibly detected. Another possibility for the low concentration of Tracer D is that the Tracer D was present as contamination in the sample canister.

Tracer personnel returned on January 30, 2001 to further investigate this area of the DOW pipeline. The exposed portion of the DOW pipeline trench was covered with plastic sheeting and secured. The DOW pipeline sump was again inoculated with Tracer D before wastewater was circulated through the system. Air samples were collected from beneath the plastic sheeting and from patched areas of the pipeline. The air samples were collected using a syringe and discharging four syringe volumes into a sample canister. The air samples were analyzed on site using a GC located in a Tracer van and Tracer D was not detected in any of the samples.

On January 31, 2001, the DOW pipeline sump was inoculated with a Tracer C. On February 8, 2001, Tracer personnel returned and collected additional air samples from beneath the plastic sheeting. The air samples were analyzed on site using a GC located in a Tracer van and Tracer C was not detected in any of the samples.

Based on the absence of Tracer C and Tracer D, Tracer conducted an internal review of the inoculation process that was completed for the DOW pipeline. This review indicated that the DOW pipeline inoculation actually was completed with three times the amount of tracer necessary for the volume of the system. The use of this quantity of tracer affects basis of the proprietary Tracer process. Adjusting for the higher tracer concentration, the initial detection of Tracer D in vapor probe #351 can be adjusted to a concentration of 0.03 µg/l, which is below the failure threshold of 0.1 µg/l. As a result, the DOW pipeline passed the Tracer leak test. The DWW pipeline also passed the Tracer leak test.



4. SOIL AND GROUNDWATER SAMPLING

Presented in this section are descriptions of the investigation methods and procedures employed to characterize the nature of contamination that might be present in the vicinity of vapor probes near areas of suspected pipeline leaks. This section describes the procedures used to perform soil borings and obtain samples of soil and groundwater. More detailed descriptions of specific investigation procedures are presented in the respective LEA Standard Operating Procedures.

4.1 Soil Sampling Methodology

On May 3, 4, and 16, 2001, soil samples were collected from soil borings by LEA personnel. Nine different sampling locations were sampled in the vicinity of vapor probes #3 and #4 (soil borings SK-XT-02 through SK-XT-10). The sampling locations are shown on Drawing 1.

The overlying pavement was broken and removed using direct-push techniques with the LEA Geoprobe® drilling rig. A hand auger was used to sample soil in 2-foot intervals to a depth of 6 feet due to concerns with underground utility locations. The LEA Geoprobe® drilling rig was used to install the soil borings (XT-SB-02 through XT-SB-10) from 6 to 12 feet. Direct-push techniques involved the installation of a soil boring to depth using Geoprobe® soil sampling techniques. Boreholes were advanced using the Geoprobe® Macro-Core® soil sampling equipment. The soil borings during this investigation were installed in general accordance with the procedures described in LEA Standard Operating Procedures (SOPs) for *Geoprobe® Probing and Sampling*, *Geologic Logging of Unconsolidated Sedimentary Materials*, and *Soil Sampling*.

The Macro-Core system consisted of a 48-inch long by 2-inch outside diameter steel sampling tube outfitted with disposable 46-inch long by 1.75-inch diameter polyethylene terephthalate copolyester (PETG) liners. The soil sampler was outfitted with a new liner and a fitted piston tip. The entire unit was driven to the top of the sampling interval with the Geoprobe® rig. The purpose of the fitted piston tip was to seal the end of the sampling tube against the introduction of formation material during advancement. The operator released the piston tip, the sampler was driven to the final sampling depth by a combination of percussion hammering and direct pressure, and the sampler was retrieved. After the sampler was retrieved, the soil-filled liner was removed from the sampler and transferred to the attending geologist for collection and logging.

Sampling was conducted in general accordance with the procedures described in the LEA SOP for *Soil Sampling*. Continuous soil sampling was performed during the advancement of all boreholes installed using Geoprobe® Macro-Core equipment or hand augers. Soil samples were collected from grade in 2-foot intervals down to the final depth.



The Geoprobe® sample liners were sliced open using a dedicated holding frame and razor knife immediately after collection. All soil samples were examined by the attending geologist for indications of contamination, such as the presence of visible free-phase petroleum, visible staining, or the incidental presence of odors. After collection, all soil samples were field headspace screened with a photoionization detector (PID) for the presence of VOCs.

Once the sample liners were opened, the soil samples were collected directly into laboratory-supplied glass sample containers with Teflon®-lined lids for analysis. Soil samples were collected from opened liners using pre-cleaned stainless-steel spatulas. Filled sample containers were labeled using pre-printed, pre-numbered adhesive labels with sampling date and time hand recorded by the sampler. The filled sample containers were placed into iced sample coolers for the remainder of the sampling day.

Soil samples collected as part of this investigation were analyzed in the LEA Analytical Laboratory for target VOCs, including benzene (BZ); ethylbenzene (EBZ); tetrachloroethylene (PCE); toluene (TL); 1,1,1-trichloroethane (TCA); trichloroethylene (TCE); and, xylenes (XYL), using a gas chromatograph (GC). Soil samples run in the LEA mobile laboratory were analyzed and managed in accordance with the LEA SOP for the *Portable Gas Chromatograph and Sample Management Associated with the LEA Laboratory*.

All samples were sent to Severn Trent Laboratories (STL) under chain-of-custody procedures for potential analysis for the selected analytical parameters. In the absence of detectable VOCs from LEA Analytical Laboratory, soil samples were selected for laboratory analyses on the basis of the geologic logs, the field headspace screening, and consideration of potential contamination release mechanisms. Soil samples submitted to STL were analyzed for Target Compound List (TCL) VOCs by EPA Method 8260B, TCL semivolatile organic compounds (SVOCs) by EPA Method 8270C, and Extractable Total Petroleum Hydrocarbons (ETPH) by a method approved by the Connecticut Department of Environmental Protection (DEP).

4.2 Groundwater Sampling Methodology

On May 3 and May 16, 2001, groundwater samples were collected from screenpoint wells by LEA personnel. Four different groundwater sampling locations were sampled in the vicinity of vapor probes #3 and #4 (sampling locations XT-SB-04, XT-SB-07, XT-SB-08 and XT-SB-09). The sampling locations are shown on Drawing 1.

Screen-point groundwater samples were collected using a Geoprobe® SP-15 Screen-Point Sampler.® Screen-point sampling devices were typically employed in “unsampled” boreholes within 6 to 12 inches of “sampled” boreholes. In this manner, the groundwater samples collected



from the screen-point sampling device represent undisturbed groundwater from the same interval as the corresponding soil samples from the immediately adjacent soil borings. The groundwater samples were typically collected at a depth just into the water table at a depth of approximately 7 feet to a depth of 12 feet. The screen-point sampler has a screen length of 5 feet. The groundwater samples were submitted to STL for analysis of TCL VOCs by EPA Method 8260B, TCL SVOCs by EPA Method 8270C, and ETPH.

4.3 Soil and Groundwater Results

Nine soil borings, XT-SB-02 through XT-SB-10, were completed in the vicinity of vapor probes #3 and #4. Soil samples collected on May 3, 2001 and shipped to STL under chain-of-custody procedures were received into the STL Receiving Department four days after shipping. These samples were not analyzed due to high temperatures, therefore additional soil samples were collected on May 16, 2001.

A summary of the sampling and analytical information for the soil and groundwater samples as part of this investigation is provided in Table 1. A summary of the constituents detected in soil is provided in Table 2 and shown on Drawing 1. A summary of all analytical results in soil is provided in Table 3. A summary of the constituents detected in groundwater is provided in Table 4 and shown on Drawing 1. A summary of all analytical results in groundwater is provided in Table 5.

VOCs detected in soil samples collected from installed soil borings during this investigation included acetone, EBZ and XYL. The soil sample from soil boring XT-SB-05 in the 4 to 6 foot depth interval had a detectable concentration of acetone at a concentration of 9 J micrograms per kilogram ($\mu\text{g}/\text{kg}$). The soil sample from soil boring XT-SB-08 in the 8 to 10 foot depth interval had detectable concentrations of EBZ and XYL at concentrations of 13,000 $\mu\text{g}/\text{kg}$ and 42,000 $\mu\text{g}/\text{kg}$, respectively. The J qualifier indicates that the compound was analyzed for and determined to be present in the sample. The mass spectrum of the compound meets the identification criteria of the method. The concentration listed is an estimated value, which is less than the specified minimum detection limit but is greater than zero.

SVOCs detected in soil samples collected during this investigation included naphthalene, and 2-methylnaphthalene. The soil sample from soil boring XT-SB-08 in the 8 to 10 foot depth interval had detectable concentrations of naphthalene and 2-methylnaphthalene at concentrations of 17,000 J $\mu\text{g}/\text{kg}$ and 43,000 $\mu\text{g}/\text{kg}$, respectively. The soil sample from soil boring XT-SB-08 in the 8 to 10 foot depth interval also had a detectable concentration of ETPH at a concentration of 8,800 mg/kg.

VOCs detected in groundwater samples collected during this investigation included BZ, EBZ and XYL. The groundwater sample from soil boring XT-SB-08 in the 7 to 12 foot depth interval had detectable concentrations of BZ, EBZ and XYL at concentrations of 19 µg/l, 150 µg/l and 440 µg/l, respectively.

SVOCs detected in groundwater samples collected from installed soil borings during this investigation included naphthalene, and 2-methylnaphthalene. The groundwater sample from soil boring XT-SB-08 in the 7 to 12 foot depth interval had detectable concentrations of naphthalene and 2-methylnaphthalene at concentrations of 260 µg/l and 240 µg/l, respectively.

Quality assurance samples collected during the sampling included a trip blank and equipment blank. The trip blank and equipment blank were submitted to STL for analysis. The lack of compounds present above detection limits in the trip blank confirmed that site-specific parameters were not introduced to the samples during collection or transportation to the laboratory. Only chloroform at a concentration of 6.1 µg/l was detected in the equipment blank, which indicates that the equipment and the equipment decontamination procedures did not contribute appreciably to the introduction of site-specific parameters.



5. SUMMARY

The purpose of this project was to assess the integrity of the inter-plant pipelines on and between the P&W facilities in East Hartford, Connecticut. This assessment was undertaken as part of the stabilization effort at the East Hartford Main Street Facility. If potential release(s) from the pipelines were identified, the potential impacts on soil and groundwater would then be evaluated. An evaluation of pipeline leak testing technologies was previously performed to identify the technology most appropriate for this situation in order to obtain the most useful and accurate results.

The selected method, Tracer Tight® Pipeline LDS, is a unique method of underground precision leak detection whereby a volatile chemical tracer is added to a pipeline system. If a leak is present in the system, tracer leaks into the soil where the tracer evaporates into the vapor (soil gas) in the surrounding soil. Determination of leakage is based on the criteria established in the Tracer Tight® third party evaluation, which meets the criteria set forth in NFPA 329 for precision leak tests. The Tracer Tight® method has been determined to exceed the EPA protocol of detecting a 0.05-gallon per hour leak with a probability of detection of 97 percent and of false alarm rate of 2.9 percent.

Vapor probes were installed at an approximate interval of 20 feet along the length of the inactive jet fuel pipelines between the Main Street facility and the Willgoos facility (jet fuel pipelines #1, 2, 3 and 4) and the active wastewater pipelines (Dilute Wastewater and Dilute Oily Waste) between the Main Street facility and the Colt Street facility. The Tracer gas was then injected into the pipelines and soil gas samples were collected from the vapor probes to determine pipeline integrity. Tracer Research Corporation certified that all of the pipelines passed the tightness test with the exception of the jet fuel pipeline #2 in the area of vapor probes #3 and #4 on the Pratt & Whitney property. Additional soil and groundwater sampling were then performed in the area to investigate the potential for a historic release in this area. To investigate the area along Jet fuel line No. 2 identified by the Tracer Tight testing, nine soil borings, XT-SB-02 through XT-SB-10, were completed in the vicinity of vapor probes #3 and #4. Based on the samples analyzed, soil and groundwater contamination (i.e., VOCs, SVOCs, and ETPH) that was indicative a fuel release was detected in one soil boring XT-SB-08.

Since the area of the potential release is paved, no surface soil samples were collected. The contaminated soil detected in the area of boring XT-SB-08 is present in the 7 to 12 foot depth interval. Exposure to these soils will be controlled by the Design Process Review (DPR).



Groundwater contamination was also found at location XT-SB-08. The groundwater at this location is influenced by the dewatering system associated with the Engineering Tunnel, consequently this groundwater is controlled on-site and therefore this groundwater does not discharge to surface water.

Dermal contact with the groundwater extracted from the Engineering Tunnel dewatering system will be evaluated in conjunction with other groundwater data which exist in this area when determining exposure point concentrations as outlined in the CSM.

The pipeline leak testing data indicate that there are no releases to off-site properties from the pipelines. In fact, the only potential leak indicated is located on the Main Street Facility in the vicinity of the Engineering Tunnel and South Tank Farm. The subsequent soil and groundwater data collected in this area indicate a limited impact from inactive jet fuel pipeline No. 2, the location of which is within the capture zone of the Engineering Tunnel dewatering system. Based on these data, it is expected that the pipelines will not adversely affect stabilization of the Pratt & Whitney East Hartford Facility.

TABLES

Table 1
SUMMARY OF SAMPLING AND ANALYTICAL INFORMATION
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation



Loureiro Engineering Associates, Inc.

Sample Information					Analysis Information							
Location ID	Sample ID	Sample Date	Sampled Interval (ft)	Sample Class	LEAVolatiles	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides	PCBs	Metals	Miscellaneous Analyses
EQUIPMENT	1995645	05/03/2001		BKE	x							
EQUIPMENT	1995648	05/04/2001		BKE	x							
EQUIPMENT	1995651	05/16/2001		BKE		x	x					
TRIP BLANK	1995587	05/03/2001		BKT	x							
TRIP BLANK	1995588	05/04/2001		BKT	x							
TRIP BLANK	1995652	05/16/2001		BKT		x						
XT-SB-02	1995557	05/03/2001	0 - 2	SB	x							
XT-SB-02	1995558	05/03/2001	2 - 4	SB	x							
XT-SB-02	1995559	05/03/2001	4 - 6	SB	x							
XT-SB-02	1995560	05/03/2001	6 - 8	SB	x							
XT-SB-02	1995561	05/03/2001	8 - 10	SB	x							
XT-SB-02	1995562	05/03/2001	10 - 12	SB	x							
XT-SB-03	1995563	05/03/2001	0 - 2	SB	x							
XT-SB-03	1995564	05/03/2001	2 - 4	SB	x							
XT-SB-03	1995565	05/03/2001	4 - 6	SB	x							
XT-SB-03	1995566	05/03/2001	6 - 8	SB	x							
XT-SB-03	1995567	05/03/2001	8 - 10	SB	x							
XT-SB-03	1995568	05/03/2001	10 - 12	SB	x							
XT-SB-03	1995629	05/16/2001	4 - 6	SB		x	x					
XT-SB-03	1995631	05/16/2001	8 - 10	SB		x	x					
XT-SB-04	1995569	05/03/2001	0 - 2	SB	x							
XT-SB-04	1995570	05/03/2001	2 - 4	SB	x							
XT-SB-04	1995571	05/03/2001	4 - 6	SB	x							
XT-SB-04	1995572	05/03/2001	6 - 8	SB	x							
XT-SB-04	1995573	05/03/2001	8 - 10	SB	x							
XT-SB-04	1995574	05/03/2001	10 - 12	SB	x							
XT-SB-04	1995623	05/16/2001	4 - 6	SB		x	x					
XT-SB-04	1995650	05/16/2001	7 - 12	GWG		x	x					
XT-SB-04	1995625	05/16/2001	8 - 10	SB		x	x					
XT-SB-05	1995575	05/03/2001	0 - 2	SB	x							
XT-SB-05	1995576	05/03/2001	2 - 4	SB	x							
XT-SB-05	1995577	05/03/2001	4 - 6	SB	x							
XT-SB-05	1995578	05/03/2001	6 - 8	SB	x							

Legend: x - mass, t - TCLP, s - SPLP, e - EPTOX, z - ZHE, d - Thermal Desorption, r - Charcoal Tube, a - SEM/AVS, f - filtered, nr - not received; Capitalized - at least one analyte in class detected
Printed on 10/11/2001

Table 1
SUMMARY OF SAMPLING AND ANALYTICAL INFORMATION
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation



Loureiro Engineering Associates, Inc.

Sample Information					Analysis Information							
Location ID	Sample ID	Sample Date	Sampled Interval (ft)	Sample Class	LEA Volatiles	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides	PCBs	Metals	Miscellaneous Analyses
XT-SB-05	1995579	05/03/2001	8 - 10	SB	x							
XT-SB-05	1995580	05/03/2001	10 - 12	SB	x							
XT-SB-05	1995617	05/16/2001	4 - 6	SB		x	x					
XT-SB-05	1995619	05/16/2001	8 - 10	SB		x	x					
XT-SB-06	1995581	05/03/2001	0 - 2	SB	x							
XT-SB-06	1995582	05/03/2001	2 - 4	SB	x							
XT-SB-06	1995583	05/03/2001	4 - 6	SB	x							
XT-SB-06	1995584	05/03/2001	6 - 8	SB	x							
XT-SB-06	1995585	05/03/2001	8 - 10	SB	x							
XT-SB-06	1995586	05/03/2001	10 - 12	SB	x							
XT-SB-06	1995635	05/16/2001	4 - 6	SB		x	x					
XT-SB-06	1995637	05/16/2001	8 - 10	SB		x	x					
XT-SB-07	1995589	05/04/2001	0 - 2	SB	x							
XT-SB-07	1995590	05/04/2001	2 - 4	SB	x							
XT-SB-07	1995591	05/04/2001	4 - 6	SB	x	x	x					x
XT-SB-07	1995592	05/04/2001	6 - 8	SB	x							
XT-SB-07	1995593	05/04/2001	8 - 10	SB	x	x	x					x
XT-SB-07	1995594	05/04/2001	10 - 12	SB	x							
XT-SB-08	1995595	05/04/2001	0 - 2	SB	x							
XT-SB-08	1995596	05/04/2001	2 - 4	SB	x							
XT-SB-08	1995597	05/04/2001	4 - 6	SB	x	x	x					x
XT-SB-08	1995598	05/04/2001	6 - 8	SB	x							
XT-SB-08	1995599	05/04/2001	8 - 10	SB	x	x	x					x
XT-SB-08	1995600	05/04/2001	10 - 12	SB	x							
XT-SB-08	1995601	05/04/2001	10 - 12	SB	x							
XT-SB-08	1995649	05/16/2001	7 - 12	GWG		x	x					
XT-SB-09	1995602	05/04/2001	0 - 2	SB	x							
XT-SB-09	1995603	05/04/2001	2 - 4	SB	x							
XT-SB-09	1995604	05/04/2001	4 - 6	SB	x	x	x					x
XT-SB-09	1995605	05/04/2001	6 - 8	SB	x							
XT-SB-09	1995606	05/04/2001	8 - 10	SB	x	x	x					x
XT-SB-09	1995607	05/04/2001	10 - 12	SB	x							
XT-SB-10	1995608	05/04/2001	0 - 2	SB	x							

Legend: x - mass, t - TCLP, s - SPLP, e - EPTOX, z - ZHE, d - Thermal Desorption, r - Charcoal Tube, a - SEM/AVS, f - filtered, nr - not received; Capitalized - at least one analyte in class detected
Printed on 10/11/2001

Table 1
SUMMARY OF SAMPLING AND ANALYTICAL INFORMATION
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation



Loureiro Engineering Associates, Inc.

Legend: x - mass, t - TCLP, s - SPLP, e - EPTOX, z - ZHE, d - Thermal Desorption, r - Charcoal Tube, a - SEM/AVS, f - filtered, nr - not received; Capitalized - at least one analyte in class detected
Printed on 10/11/2001

Table 2
SUMMARY OF ANALYTICAL RESULTS (DETECTS)
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation



Loureiro Engineering Associates, Inc.

Table 2
SUMMARY OF ANALYTICAL RESULTS (DETECTS)
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation



Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-08	XT-SB-09	XT-SB-10	XT-SB-10	XT-SB-10	XT-SB-10
	Sample ID	1995601	1995604	1995609	1995612	1995613	1995614
	Sample Date	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001
	Sample Time	10:20	11:05	12:15	12:35	12:40	12:40
	Sample Depth	10' - 12'	4' - 6'	2' - 4'	8' - 10'	10' - 12'	10' - 12'
	Laboratory	LEA	LEA	LEA	LEA	LEA	LEA
	Lab. Number	35052-0120	00225-2182	00225-2176	00225-2179	00225-2180	00225-2181
Constituent	Units						
Date Organics Analyzed	-	05/08/2001	05/08/2001	05/08/2001	05/08/2001	05/08/2001	05/08/2001
Date Physical Analyzed	-						
Date Semi-volatile Organics Analyzed	-						
Extract. Petroleum Hydrocarbons EPA 1664	mg/kg						
Naphthalene	ug/kg						
2-Methylnaphthalene	ug/kg						
Acetone	ug/kg						
Benzene (screening)	ug/kg	150					
Ethylbenzene	ug/kg						
Ethylbenzene (screening)	ug/kg	2500 E		480 E	220		
Tetrachloroethylene (screening)	ug/kg	660		380	34	56	
Trichloroethylene (screening)	ug/kg	230					
Chloroform	ug/l						
Toluene (screening)	ug/kg			370			
o-Xylene (screening)	ug/kg	4200 E		470	180		
Xylenes	ug/kg						
Xylenes,m- & p- (screening)	ug/kg	4200 E	15 E		410	21 E	34 E
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Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation



Loureiro Engineering Associates, Inc.

	Location ID	EQUIPMENT	EQUIPMENT	EQUIPMENT	TRIP BLANK	TRIP BLANK	TRIP BLANK	XT-SB-02
	Sample ID	1995645	1995648	1995651	1995587	1995588	1995652	1995557
	Sample Date	05/03/2001	05/04/2001	05/16/2001	05/03/2001	05/04/2001	05/16/2001	05/03/2001
	Sample Time	14:15	11:55	12:00	13:35	08:00	13:15	10:20
	Sample Depth							'0' - '2'
	Laboratory	LEA	LEA	STLC	LEA	LEA	STLC	LEA
	Lab. Number	35052-0067	35052-0106	A1E170190028	35052-0066	35052-0105	A1E170190029	35052-0068
Constituent	Units							
Date Organics Analyzed	-	05/07/2001	05/08/2001	05/21/2001	05/07/2001	05/08/2001	05/21/2001	05/07/2001
Date Physical Analyzed	-							
Date Semi-volatile Organics Analyzed	-			05/19/2001				
Hexachlorobenzene	ug/kg			<10				
Hexachlorocyclopentadiene	ug/kg			<50				
Extract. Petroleum Hydrocarbons EPA 1664	mg/kg							
Total Solids	%							
Acenaphthylene	ug/kg			<10				
Acenaphthene	ug/kg			<10				
2-Nitroaniline	ug/kg			<50				
3-Nitroaniline	ug/kg			<50				
4-Chloroaniline	ug/kg			<10				
4-Nitroaniline	ug/kg			<50				
Anthracene	ug/kg			<10				
Benzo(a)anthracene	ug/kg			<10				
Benzo(b)fluoranthene	ug/kg			<10				
Nitrobenzene	ug/kg			<10				
3,3'-Dichlorobenzidine	ug/kg			<50				
Benzo(a)pyrene	ug/kg			<10				
Benzo(g,h,i)perylene	ug/kg			<10				
Benzo(k)fluoranthene	ug/kg			<10				
Hexachlorobutadiene	ug/kg			<10				
Carbazole	ug/kg			<10				
Chrysene	ug/kg			<10				
Cresol,4,6-dinitro-o-	ug/kg			<50				
Cresol,4-chloro-m-	ug/kg			<10				
2-Methylphenol	ug/kg			<10				
4-Methylphenol	ug/kg			<10				

Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation



Loureiro Engineering Associates, Inc.

	Location ID	EQUIPMENT	EQUIPMENT	EQUIPMENT	TRIP BLANK	TRIP BLANK	TRIP BLANK	XT-SB-02
Sample ID	1995645	1995648	1995651	1995587	1995588	1995652	1995557	
Sample Date	05/03/2001	05/04/2001	05/16/2001	05/03/2001	05/04/2001	05/16/2001	05/03/2001	
Sample Time	14:15	11:55	12:00	13:35	08:00	13:15	10:20	
Sample Depth								0' - 2'
Laboratory	LEA	LEA	STLC	LEA	LEA	STLC	LEA	
Lab. Number	35052-0067	35052-0106	A1E170190028	35052-0066	35052-0105	A1E170190029	35052-0068	
Constituent	Units							
Dibenz(a,h)anthracene	ug/kg			<10				
Dibenzofuran	ug/kg			<10				
n-Nitrosodiphenylamine	ug/kg			<10				
n-Nitrosodi-n-propylamine	ug/kg			<10				
Hexachloroethane	ug/kg			<10				
4-bromophenyl-phenylether	ug/kg			<10				
4-Chlorophenyl-phenyl Ether	ug/kg			<10				
bis(2-Chloroethyl)ether	ug/kg			<10				
Fluoranthene	ug/kg			<10				
Fluorene	ug/kg			<10				
Indeno(1,2,3-cd)pyrene	ug/kg			<10				
Isophorone	ug/kg			<10				
Methane,bis(2-chloroethoxy)-	ug/kg			<10				
Naphthalene	ug/kg			<10				
2-Chloronaphthalene	ug/kg			<10				
2-Methylnaphthalene	ug/kg			<10				
Phenanthrene	ug/kg			<10				
Phenol	ug/kg			<10				
2,4,5-Trichlorophenol	ug/kg			<10				
2,4,6-Trichlorophenol	ug/kg			<10				
2,4-Dichlorophenol	ug/kg			<10				
2,4-Dinitrophenol	ug/kg			<50				
2-Chlorophenol	ug/kg			<10				
2-Nitrophenol	ug/kg			<10				
Phenol,4-nitro-	ug/kg			<50				
Pentachlorophenol	ug/kg			<10				
Butyl Benzyl Phthalate	ug/kg			<10				
bis(2-ethyl hexyl)phthalate	ug/kg			<10				

Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation



Loureiro Engineering Associates, Inc.

	Location ID	EQUIPMENT	EQUIPMENT	EQUIPMENT	TRIP BLANK	TRIP BLANK	TRIP BLANK	XT-SB-02
	Sample ID	1995645	1995648	1995651	1995587	1995588	1995652	1995557
	Sample Date	05/03/2001	05/04/2001	05/16/2001	05/03/2001	05/04/2001	05/16/2001	05/03/2001
	Sample Time	14:15	11:55	12:00	13:35	08:00	13:15	10:20
	Sample Depth							0' - 2'
	Laboratory	LEA	LEA	STLC	LEA	LEA	STLC	LEA
	Lab. Number	35052-0067	35052-0106	A1E170190028	35052-0066	35052-0105	A1E170190029	35052-0068
Constituent	Units							
Di-n-butyl Phthalate	ug/kg			<10				
Di-n-octyl Phthalate	ug/kg			<10				
Diethyl Phthalate	ug/kg			<10				
Dimethyl Phthalate	ug/kg			<10				
Propane,2,2'-oxybis(2-chloro-	ug/kg			<10				
Pyrene	ug/kg			<10				
2,4-Dinitrotoluene	ug/kg			<10				
2,6-Dinitrotoluene	ug/kg			<10				
2,4-Dimethylphenol	ug/kg			<10				
Acetone	ug/kg			<100			<100	
Benzene	ug/kg			<1.0			<1.0	
Benzene (screening)	ug/kg	<5.0	<5.0		<5.0	<5.0		<30
1,2,4-Trichlorobenzene	ug/kg			<10				
1,2-Dichlorobenzene	ug/kg			<10				
1,3-Dichlorobenzene	ug/kg			<10				
1,4-Dichlorobenzene	ug/kg			<10				
Chlorobenzene	ug/kg			<5.0			<5.0	
Ethylbenzene	ug/kg			<5.0			<5.0	
Ethylbenzene (screening)	ug/kg	<5.0	<5.0		<5.0	<5.0		<30
2-Butanone(MEK)	ug/kg			<100			<100	
Carbon Disulfide	ug/kg			<5.0			<5.0	
Carbon Tetrachloride	ug/kg			<5.0			<5.0	
1,1,1-Trichloroethane	ug/kg			<5.0			<5.0	
1,1,1-Trichloroethane (screening)	ug/kg	<50	<50		<50	<50		<300
1,1,2,2-Tetrachloroethane	ug/kg			<0.50			<0.50	
1,1,2-Trichloroethane	ug/kg			<5.0			<5.0	
1,1-Dichloroethane	ug/kg			<5.0			<5.0	
1,2-Dichloroethane	ug/kg			<1.0			<1.0	

Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation



Loureiro Engineering Associates, Inc.

	Location ID	EQUIPMENT	EQUIPMENT	EQUIPMENT	TRIP BLANK	TRIP BLANK	TRIP BLANK	XT-SB-02
	Sample ID	1995645	1995648	1995651	1995587	1995588	1995652	1995557
	Sample Date	05/03/2001	05/04/2001	05/16/2001	05/03/2001	05/04/2001	05/16/2001	05/03/2001
	Sample Time	14:15	11:55	12:00	13:35	08:00	13:15	10:20
	Sample Depth							0' - 2'
	Laboratory	LEA	LEA	STLC	LEA	LEA	STLC	LEA
	Lab. Number	35052-0067	35052-0106	A1E170190028	35052-0066	35052-0105	A1E170190029	35052-0068
Constituent	Units							
Chloroethane	ug/kg			<10				<10
1,1-Dichloroethylene	ug/kg			<1.0				<1.0
Vinyl Chloride	ug/kg			<2.0				<2.0
cis-1,2-Dichloroethylene	ug/kg			<5.0				<5.0
Tetrachloroethylene	ug/kg			<5.0				<5.0
Tetrachloroethylene (screening)	ug/kg	<5.0	<5.0		<5.0	<5.0		<30
trans-1,2-Dichloroethylene	ug/kg			<5.0				<5.0
Trichloroethylene	ug/kg			<5.0				<5.0
Trichloroethylene (screening)	ug/kg	<5.0	<5.0		<5.0	<5.0		<30
Hexanone,2-	ug/kg			<50				<50
Bromomethane	ug/kg			<10				<10
Bromodichloromethane	ug/kg			<5.0				<5.0
Chloromethane	ug/kg			<10				<10
Dibromochloromethane	ug/kg			<0.50				<0.50
Methylene Chloride	ug/kg			<5.0				<5.0
Bromoform	ug/kg			<4.0				<4.0
Chloroform	ug/kg			6.1				<5.0
Methyl Isobutyl Ketone	ug/kg			<5.0				<5.0
1,2-Dichloropropane	ug/kg			<5.0				<5.0
1,3-Dichloropropene	ug/kg			<0.50				<0.50
Styrene	ug/kg			<5.0				<5.0
Toluene	ug/kg			<5.0				<5.0
Toluene (screening)	ug/kg	<5.0	<5.0		<5.0	<5.0		<30
o-Xylene (screening)	ug/kg	<5.0	<5.0		<5.0	<5.0		<30
Xylenes	ug/kg			<5.0				<5.0
Xylenes,m- & p- (screening)	ug/kg	<7.5	<7.5		<7.5	<7.5		<44
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Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation



Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-02	XT-SB-02	XT-SB-02	XT-SB-02	XT-SB-02	XT-SB-03	XT-SB-03
Sample ID	1995558	1995559	1995560	1995561	1995562	1995563	1995564	
Sample Date	05/03/2001	05/03/2001	05/03/2001	05/03/2001	05/03/2001	05/03/2001	05/03/2001	05/03/2001
Sample Time	10:25	10:30	10:35	10:40	10:45	11:05	11:10	
Sample Depth	2' - 4'	4' - 6'	6' - 8'	8' - 10'	10' - 12'	0' - 2'	2' - 4'	
Laboratory	LEA	LEA	LEA	LEA	LEA	LEA	LEA	
Lab. Number	35052-0069	35052-0070	35052-0071	35052-0072	35052-0073	35052-0074	35052-0075	
Constituent	Units							
Date Organics Analyzed	-	05/07/2001	05/07/2001	05/07/2001	05/07/2001	05/07/2001	05/07/2001	05/07/2001
Date Physical Analyzed	-							
Date Semi-volatile Organics Analyzed	-							
Hexachlorobenzene	ug/kg							
Hexachlorocyclopentadiene	ug/kg							
Extract. Petroleum Hydrocarbons EPA 1664	mg/kg							
Total Solids	%							
Acenaphthylene	ug/kg							
Acenaphthene	ug/kg							
2-Nitroaniline	ug/kg							
3-Nitroaniline	ug/kg							
4-Chloroaniline	ug/kg							
4-Nitroaniline	ug/kg							
Anthracene	ug/kg							
Benzo(a)anthracene	ug/kg							
Benzo(b)fluoranthene	ug/kg							
Nitrobenzene	ug/kg							
3,3'-Dichlorobenzidene	ug/kg							
Benzo(a)pyrene	ug/kg							
Benzo(g,h,i)perylene	ug/kg							
Benzo(k)fluoranthene	ug/kg							
Hexachlorobutadiene	ug/kg							
Carbazole	ug/kg							
Chrysene	ug/kg							
Cresol,4,6-dinitro-o-	ug/kg							
Cresol,4-chloro-m-	ug/kg							
2-Methylphenol	ug/kg							
4-Methylphenol	ug/kg							

Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation



Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-02	XT-SB-02	XT-SB-02	XT-SB-02	XT-SB-02	XT-SB-03	XT-SB-03
	Sample ID	1995558	1995559	1995560	1995561	1995562	1995563	1995564
	Sample Date	05/03/2001	05/03/2001	05/03/2001	05/03/2001	05/03/2001	05/03/2001	05/03/2001
	Sample Time	10:25	10:30	10:35	10:40	10:45	11:05	11:10
	Sample Depth	2' - 4'	4' - 6'	6' - 8'	8' - 10'	10' - 12'	0' - 2'	2' - 4'
	Laboratory	LEA						
	Lab. Number	35052-0069	35052-0070	35052-0071	35052-0072	35052-0073	35052-0074	35052-0075
Constituent	Units							
Dibenz(a,h)anthracene	ug/kg							
Dibenzofuran	ug/kg							
n-Nitrosodiphenylamine	ug/kg							
n-Nitrosodi-n-propylamine	ug/kg							
Hexachloroethane	ug/kg							
4-bromophenyl-phenylether	ug/kg							
4-Chlorophenyl-phenyl Ether	ug/kg							
bis(2-Chloroethyl)ether	ug/kg							
Fluoranthene	ug/kg							
Fluorene	ug/kg							
Indeno(1,2,3-cd)pyrene	ug/kg							
Isophorone	ug/kg							
Methane,bis(2-chloroethoxy)-	ug/kg							
Naphthalene	ug/kg							
2-Chloronaphthalene	ug/kg							
2-Methylnaphthalene	ug/kg							
Phenanthrene	ug/kg							
Phenol	ug/kg							
2,4,5-Trichlorophenol	ug/kg							
2,4,6-Trichlorophenol	ug/kg							
2,4-Dichlorophenol	ug/kg							
2,4-Dinitrophenol	ug/kg							
2-Chlorophenol	ug/kg							
2-Nitrophenol	ug/kg							
Phenol,4-nitro-	ug/kg							
Pentachlorophenol	ug/kg							
Butyl Benzyl Phthalate	ug/kg							
bis(2-ethyl hexyl)phthalate	ug/kg							

Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation



Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-02	XT-SB-02	XT-SB-02	XT-SB-02	XT-SB-02	XT-SB-03	XT-SB-03
Sample ID	1995558	1995559	1995560	1995561	1995562	1995563	1995564	1995564
Sample Date	05/03/2001	05/03/2001	05/03/2001	05/03/2001	05/03/2001	05/03/2001	05/03/2001	05/03/2001
Sample Time	10:25	10:30	10:35	10:40	10:45	11:05	11:10	11:10
Sample Depth	2' - 4'	4' - 6'	6' - 8'	8' - 10'	10' - 12'	0' - 2'	2' - 4'	2' - 4'
Laboratory	LEA	LEA	LEA	LEA	LEA	LEA	LEA	LEA
Lab. Number	35052-0069	35052-0070	35052-0071	35052-0072	35052-0073	35052-0074	35052-0075	
Constituent	Units							
Di-n-butyl Phthalate	ug/kg							
Di-n-octyl Phthalate	ug/kg							
Diethyl Phthalate	ug/kg							
Dimethyl Phthalate	ug/kg							
Propane),2,2'-oxybis(2-chloro-	ug/kg							
Pyrene	ug/kg							
2,4-Dinitrotoluene	ug/kg							
2,6-Dinitrotoluene	ug/kg							
2,4-Dimethylphenol	ug/kg							
Acetone	ug/kg							
Benzene	ug/kg							
Benzene (screening)	ug/kg	<32	<33	<32	<30	<30	<30	<32
1,2,4-Trichlorobenzene	ug/kg							
1,2-Dichlorobenzene	ug/kg							
1,3-Dichlorobenzene	ug/kg							
1,4-Dichlorobenzene	ug/kg							
Chlorobenzene	ug/kg							
Ethylbenzene	ug/kg							
Ethylbenzene (screening)	ug/kg	<32	<33	<32	<30	<30	<30	<32
2-Butanone(MEK)	ug/kg							
Carbon Disulfide	ug/kg							
Carbon Tetrachloride	ug/kg							
1,1,1-Trichloroethane	ug/kg							
1,1,1-Trichloroethane (screening)	ug/kg	<320	<330	<320	<300	<300	<300	<320
1,1,2,2-Tetrachloroethane	ug/kg							
1,1,2-Trichloroethane	ug/kg							
1,1-Dichloroethane	ug/kg							
1,2-Dichloroethane	ug/kg							

Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation



Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-02	XT-SB-02	XT-SB-02	XT-SB-02	XT-SB-02	XT-SB-03	XT-SB-03
Sample ID	1995558	1995559	1995560	1995561	1995562	1995563	1995564	
Sample Date	05/03/2001	05/03/2001	05/03/2001	05/03/2001	05/03/2001	05/03/2001	05/03/2001	
Sample Time	10:25	10:30	10:35	10:40	10:45	11:05	11:10	
Sample Depth	2' - 4'	4' - 6'	6' - 8'	8' - 10'	10' - 12'	0' - 2'	2' - 4'	
Laboratory	LEA	LEA	LEA	LEA	LEA	LEA	LEA	
Lab. Number	35052-0069	35052-0070	35052-0071	35052-0072	35052-0073	35052-0074	35052-0075	
Constituent	Units							
Chloroethane	ug/kg							
1,1-Dichloroethylene	ug/kg							
Vinyl Chloride	ug/kg							
cis-1,2-Dichloroethylene	ug/kg							
Tetrachloroethylene	ug/kg							
Tetrachloroethylene (screening)	ug/kg	<32	<33	<32	<30	<30	<30	<32
trans-1,2-Dichloroethylene	ug/kg							
Trichloroethylene	ug/kg							
Trichloroethylene (screening)	ug/kg	<32	<33	<32	<30	<30	<30	<32
Hexanone,2-	ug/kg							
Bromomethane	ug/kg							
Bromodichloromethane	ug/kg							
Chloromethane	ug/kg							
Dibromochloromethane	ug/kg							
Methylene Chloride	ug/kg							
Bromoform	ug/kg							
Chloroform	ug/kg							
Methyl Isobutyl Ketone	ug/kg							
1,2-Dichloropropane	ug/kg							
1,3-Dichloropropene	ug/kg							
Styrene	ug/kg							
Toluene	ug/kg							
Toluene (screening)	ug/kg	<32	<33	<32	<30	<30	<30	<32
o-Xylene (screening)	ug/kg	<32	<33	<32	<30	<30	<30	<32
Xylenes	ug/kg							
Xylenes,m- & p- (screening)	ug/kg	<48	<49	<47	<45	<45	<44	<47
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Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation



Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-03	XT-SB-03	XT-SB-03	XT-SB-03	XT-SB-03	XT-SB-03	XT-SB-04
Sample ID	1995565	1995566	1995567	1995568	1995629	1995631	1995569	
Sample Date	05/03/2001	05/03/2001	05/03/2001	05/03/2001	05/16/2001	05/16/2001	05/03/2001	
Sample Time	11:15	11:20	11:25	11:30	12:30	12:40	11:55	
Sample Depth	4' - 6'	6' - 8'	8' - 10'	10' - 12'	4' - 6'	8' - 10'	0' - 2'	
Laboratory	LEA	LEA	LEA	LEA	STLC	STLC	LEA	
Lab. Number	35052-0076	35052-0077	35052-0078	35052-0079	A1E170190015	A1E170190017	35052-0080	
Constituent	Units							
Date Organics Analyzed	-	05/07/2001	05/07/2001	05/07/2001	05/07/2001	05/22/2001	05/22/2001	05/07/2001
Date Physical Analyzed	-					05/21/2001	05/21/2001	
Date Semi-volatile Organics Analyzed	-					05/21/2001	05/21/2001	
Hexachlorobenzene	ug/kg					<350	<370	
Hexachlorocyclopentadiene	ug/kg					<1700	<1800	
Extract. Petroleum Hydrocarbons EPA 1664	mg/kg							
Total Solids	%					93.1	89.1	
Acenaphthylene	ug/kg					<350	<370	
Acenaphthene	ug/kg					<350	<370	
2-Nitroaniline	ug/kg					<1700	<1800	
3-Nitroaniline	ug/kg					<1700	<1800	
4-Chloroaniline	ug/kg					<350	<370	
4-Nitroaniline	ug/kg					<1700	<1800	
Anthracene	ug/kg					<350	<370	
Benzo(a)anthracene	ug/kg					<350	<370	
Benzo(b)fluoranthene	ug/kg					<350	<370	
Nitrobenzene	ug/kg					<350	<370	
3,3'-Dichlorobenzidene	ug/kg					<1700	<1800	
Benzo(a)pyrene	ug/kg					<350	<370	
Benzo(g,h,i)perylene	ug/kg					<350	<370	
Benzo(k)fluoranthene	ug/kg					<350	<370	
Hexachlorobutadiene	ug/kg					<350	<370	
Carbazole	ug/kg					<350	<370	
Chrysene	ug/kg					<350	<370	
Cresol,4,6-dinitro-o-	ug/kg					<1700	<1800	
Cresol,4-chloro-m-	ug/kg					<350	<370	
2-Methylphenol	ug/kg					<350	<370	
4-Methylphenol	ug/kg					<350	<370	

Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation



Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-03	XT-SB-03	XT-SB-03	XT-SB-03	XT-SB-03	XT-SB-03	XT-SB-04
	Sample ID	1995565	1995566	1995567	1995568	1995629	1995631	1995569
	Sample Date	05/03/2001	05/03/2001	05/03/2001	05/03/2001	05/16/2001	05/16/2001	05/03/2001
	Sample Time	11:15	11:20	11:25	11:30	12:30	12:40	11:55
	Sample Depth	4' - 6'	6' - 8'	8' - 10'	10' - 12'	4' - 6'	8' - 10'	0' - 2'
	Laboratory	LEA	LEA	LEA	LEA	STLC	STLC	LEA
	Lab. Number	35052-0076	35052-0077	35052-0078	35052-0079	A1E170190015	A1E170190017	35052-0080
Constituent	Units							
Dibenz(a,h)anthracene	ug/kg				<350	<370		
Dibenzofuran	ug/kg				<350	<370		
n-Nitrosodiphenylamine	ug/kg				<350	<370		
n-Nitrosodi-n-propylamine	ug/kg				<350	<370		
Hexachloroethane	ug/kg				<350	<370		
4-bromophenyl-phenylether	ug/kg				<350	<370		
4-Chlorophenyl-phenyl Ether	ug/kg				<350	<370		
bis(2-Chloroethyl)ether	ug/kg				<350	<370		
Fluoranthene	ug/kg				<350	<370		
Fluorene	ug/kg				<350	<370		
Indeno(1,2,3-cd)pyrene	ug/kg				<350	<370		
Isophorone	ug/kg				<350	<370		
Methane,bis(2-chloroethoxy)-	ug/kg				<350	<370		
Naphthalene	ug/kg				<350	<370		
2-Chloronaphthalene	ug/kg				<350	<370		
2-Methylnaphthalene	ug/kg				<350	<370		
Phenanthrene	ug/kg				<350	<370		
Phenol	ug/kg				<350	<370		
2,4,5-Trichlorophenol	ug/kg				<350	<370		
2,4,6-Trichlorophenol	ug/kg				<350	<370		
2,4-Dichlorophenol	ug/kg				<350	<370		
2,4-Dinitrophenol	ug/kg				<1700	<1800		
2-Chlorophenol	ug/kg				<350	<370		
2-Nitrophenol	ug/kg				<350	<370		
Phenol,4-nitro-	ug/kg				<1700	<1800		
Pentachlorophenol	ug/kg				<350	<370		
Butyl Benzyl Phthalate	ug/kg				<350	<370		
bis(2-ethyl hexyl)phthalate	ug/kg				<350	<370		

Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation



Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-03	XT-SB-03	XT-SB-03	XT-SB-03	XT-SB-03	XT-SB-03	XT-SB-04
Sample ID	1995565	1995566	1995567	1995568	1995629	1995631	1995569	
Sample Date	05/03/2001	05/03/2001	05/03/2001	05/03/2001	05/16/2001	05/16/2001	05/03/2001	
Sample Time	11:15	11:20	11:25	11:30	12:30	12:40	11:55	
Sample Depth	4' - 6'	6' - 8'	8' - 10'	10' - 12'	4' - 6'	8' - 10'	0' - 2'	
Laboratory	LEA	LEA	LEA	LEA	STLC	STLC	LEA	
Lab. Number	35052-0076	35052-0077	35052-0078	35052-0079	A1E170190015	A1E170190017	35052-0080	
Constituent	Units							
Di-n-butyl Phthalate	ug/kg				<350	<370		
Di-n-octyl Phthalate	ug/kg				<350	<370		
Diethyl Phthalate	ug/kg				<350	<370		
Dimethyl Phthalate	ug/kg				<350	<370		
Propane),2,2'-oxybis(2-chloro-	ug/kg				<350	<370		
Pyrene	ug/kg				<350	<370		
2,4-Dinitrotoluene	ug/kg				<350	<370		
2,6-Dinitrotoluene	ug/kg				<350	<370		
2,4-Dimethylphenol	ug/kg				<350	<370		
Acetone	ug/kg				<110	<110		
Benzene	ug/kg				<5.4	<5.6		
Benzene (screening)	ug/kg	<29	<32	<31	<32			<30
1,2,4-Trichlorobenzene	ug/kg				<350	<370		
1,2-Dichlorobenzene	ug/kg				<350	<370		
1,3-Dichlorobenzene	ug/kg				<350	<370		
1,4-Dichlorobenzene	ug/kg				<350	<370		
Chlorobenzene	ug/kg				<5.4	<5.6		
Ethylbenzene	ug/kg				<5.4	<5.6		
Ethylbenzene (screening)	ug/kg	<29	<32	<31	<32			<30
2-Butanone(MEK)	ug/kg				<110	<110		
Carbon Disulfide	ug/kg				<5.4	<5.6		
Carbon Tetrachloride	ug/kg				<5.4	<5.6		
1,1,1-Trichloroethane	ug/kg				<5.4	<5.6		
1,1,1-Trichloroethane (screening)	ug/kg	<290	<320	<310	<320			<300
1,1,2,2-Tetrachloroethane	ug/kg				<5.4	<5.6		
1,1,2-Trichloroethane	ug/kg				<5.4	<5.6		
1,1-Dichloroethane	ug/kg				<5.4	<5.6		
1,2-Dichloroethane	ug/kg				<5.4	<5.6		

Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation



Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-03	XT-SB-03	XT-SB-03	XT-SB-03	XT-SB-03	XT-SB-03	XT-SB-04
Sample ID	1995565	1995566	1995567	1995568	1995629	1995631	1995569	
Sample Date	05/03/2001	05/03/2001	05/03/2001	05/03/2001	05/16/2001	05/16/2001	05/03/2001	
Sample Time	11:15	11:20	11:25	11:30	12:30	12:40	11:55	
Sample Depth	4' - 6'	6' - 8'	8' - 10'	10' - 12'	4' - 6'	8' - 10'	0' - 2'	
Laboratory	LEA	LEA	LEA	LEA	STLC	STLC	LEA	
Lab. Number	35052-0076	35052-0077	35052-0078	35052-0079	A1E170190015	A1E170190017	35052-0080	
Constituent	Units							
Chloroethane	ug/kg				<11	<11		
1,1-Dichloroethylene	ug/kg				<5.4	<5.6		
Vinyl Chloride	ug/kg				<11	<11		
cis-1,2-Dichloroethylene	ug/kg				<5.4	<5.6		
Tetrachloroethylene	ug/kg				<5.4	<5.6		
Tetrachloroethylene (screening)	ug/kg	<29	<32	<31	<32			<30
trans-1,2-Dichloroethylene	ug/kg				<5.4	<5.6		
Trichloroethylene	ug/kg				<5.4	<5.6		
Trichloroethylene (screening)	ug/kg	<29	<32	<31	<32			<30
Hexane,2-	ug/kg				<54	<56		
Bromomethane	ug/kg				<11	<11		
Bromodichloromethane	ug/kg				<5.4	<5.6		
Chloromethane	ug/kg				<11	<11		
Dibromochloromethane	ug/kg				<5.4	<5.6		
Methylene Chloride	ug/kg				<5.4	<5.6		
Bromoform	ug/kg				<5.4	<5.6		
Chloroform	ug/kg				<5.4	<5.6		
Methyl Isobutyl Ketone	ug/kg				<5.4	<5.6		
1,2-Dichloropropane	ug/kg				<5.4	<5.6		
1,3-Dichloropropene	ug/kg				<5.4	<5.6		
Styrene	ug/kg				<5.4	<5.6		
Toluene	ug/kg				<5.4	<5.6		
Toluene (screening)	ug/kg	<29	<32	<31	<32			<30
o-Xylene (screening)	ug/kg	<29	<32	<31	<32			<30
Xylenes	ug/kg					<5.4	<5.6	
Xylenes,m- & p- (screening)	ug/kg	<44	<47	<46	<48			<44
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Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation



Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-04	XT-SB-04	XT-SB-04	XT-SB-04	XT-SB-04	XT-SB-04	XT-SB-04
Sample ID	1995570	1995571	1995572	1995573	1995574	1995623	1995625	
Sample Date	05/03/2001	05/03/2001	05/03/2001	05/03/2001	05/03/2001	05/16/2001	05/16/2001	
Sample Time	12:00	12:05	12:10	12:15	12:20	11:10	11:25	
Sample Depth	2' - 4'	4' - 6'	6' - 8'	8' - 10'	10' - 12'	4' - 6'	8' - 10'	
Laboratory	LEA	LEA	LEA	LEA	LEA	STLC	STLC	
Lab. Number	35052-0081	35052-0082	35052-0083	35052-0084	35052-0085	A1E170190009	A1E170190011	
Constituent	Units							
Date Organics Analyzed	-	05/07/2001	05/07/2001	05/07/2001	05/07/2001	05/22/2001	05/22/2001	
Date Physical Analyzed	-					05/21/2001	05/21/2001	
Date Semi-volatile Organics Analyzed	-					05/21/2001	05/21/2001	
Hexachlorobenzene	ug/kg					<420	<420	
Hexachlorocyclopentadiene	ug/kg					<2000	<2000	
Extract. Petroleum Hydrocarbons EPA 1664	mg/kg							
Total Solids	%					78.9	79.1	
Acenaphthylene	ug/kg					<420	<420	
Acenaphthene	ug/kg					<420	<420	
2-Nitroaniline	ug/kg					<2000	<2000	
3-Nitroaniline	ug/kg					<2000	<2000	
4-Chloroaniline	ug/kg					<420	<420	
4-Nitroaniline	ug/kg					<2000	<2000	
Anthracene	ug/kg					<420	<420	
Benzo(a)anthracene	ug/kg					<420	<420	
Benzo(b)fluoranthene	ug/kg					<420	<420	
Nitrobenzene	ug/kg					<420	<420	
3,3'-Dichlorobenzidine	ug/kg					<2000	<2000	
Benzo(a)pyrene	ug/kg					<420	<420	
Benzo(g,h,i)perylene	ug/kg					<420	<420	
Benzo(k)fluoranthene	ug/kg					<420	<420	
Hexachlorobutadiene	ug/kg					<420	<420	
Carbazole	ug/kg					<420	<420	
Chrysene	ug/kg					<420	<420	
Cresol,4,6-dinitro-o-	ug/kg					<2000	<2000	
Cresol,4-chloro-m-	ug/kg					<420	<420	
2-Methylphenol	ug/kg					<420	<420	
4-Methylphenol	ug/kg					<420	<420	

Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation



Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-04	XT-SB-04	XT-SB-04	XT-SB-04	XT-SB-04	XT-SB-04	XT-SB-04
Sample ID	1995570	1995571	1995572	1995573	1995574	1995623	1995625	
Sample Date	05/03/2001	05/03/2001	05/03/2001	05/03/2001	05/03/2001	05/16/2001	05/16/2001	
Sample Time	12:00	12:05	12:10	12:15	12:20	11:10	11:25	
Sample Depth	2' - 4'	4' - 6'	6' - 8'	8' - 10'	10' - 12'	4' - 6'	8' - 10'	
Laboratory	LEA	LEA	LEA	LEA	LEA	STLC	STLC	
Lab. Number	35052-0081	35052-0082	35052-0083	35052-0084	35052-0085	A1E170190009	A1E170190011	
Constituent	Units							
Dibenz(a,h)anthracene	ug/kg					<420	<420	
Dibenzofuran	ug/kg					<420	<420	
n-Nitrosodiphenylamine	ug/kg					<420	<420	
n-Nitrosodi-n-propylamine	ug/kg					<420	<420	
Hexachloroethane	ug/kg					<420	<420	
4-bromophenyl-phenylether	ug/kg					<420	<420	
4-Chlorophenyl-phenyl Ether	ug/kg					<420	<420	
bis(2-Chloroethyl)ether	ug/kg					<420	<420	
Fluoranthene	ug/kg					<420	<420	
Fluorene	ug/kg					<420	<420	
Indeno(1,2,3-cd)pyrene	ug/kg					<420	<420	
Isophorone	ug/kg					<420	<420	
Methane,bis(2-chloroethoxy)-	ug/kg					<420	<420	
Naphthalene	ug/kg					<420	<420	
2-Chloronaphthalene	ug/kg					<420	<420	
2-Methylnaphthalene	ug/kg					<420	<420	
Phenanthrene	ug/kg					<420	<420	
Phenol	ug/kg					<420	<420	
2,4,5-Trichlorophenol	ug/kg					<420	<420	
2,4,6-Trichlorophenol	ug/kg					<420	<420	
2,4-Dichlorophenol	ug/kg					<420	<420	
2,4-Dinitrophenol	ug/kg					<2000	<2000	
2-Chlorophenol	ug/kg					<420	<420	
2-Nitrophenol	ug/kg					<420	<420	
Phenol,4-nitro-	ug/kg					<2000	<2000	
Pentachlorophenol	ug/kg					<420	<420	
Butyl Benzyl Phthalate	ug/kg					<420	<420	
bis(2-ethyl hexyl)phthalate	ug/kg					<420	<420	

Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation



Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-04	XT-SB-04	XT-SB-04	XT-SB-04	XT-SB-04	XT-SB-04	XT-SB-04
Sample ID	1995570	1995571	1995572	1995573	1995574	1995623	1995625	
Sample Date	05/03/2001	05/03/2001	05/03/2001	05/03/2001	05/03/2001	05/16/2001	05/16/2001	
Sample Time	12:00	12:05	12:10	12:15	12:20	11:10	11:25	
Sample Depth	2' - 4'	4' - 6'	6' - 8'	8' - 10'	10' - 12'	4' - 6'	8' - 10'	
Laboratory	LEA	LEA	LEA	LEA	LEA	STLC	STLC	
Lab. Number	35052-0081	35052-0082	35052-0083	35052-0084	35052-0085	A1E170190009	A1E170190011	
Constituent	Units							
Di-n-butyl Phthalate	ug/kg					<420	<420	
Di-n-octyl Phthalate	ug/kg					<420	<420	
Diethyl Phthalate	ug/kg					<420	<420	
Dimethyl Phthalate	ug/kg					<420	<420	
Propane),2,2'-oxybis(2-chloro-	ug/kg					<420	<420	
Pyrene	ug/kg					<420	<420	
2,4-Dinitrotoluene	ug/kg					<420	<420	
2,6-Dinitrotoluene	ug/kg					<420	<420	
2,4-Dimethylphenol	ug/kg					<420	<420	
Acetone	ug/kg					<130	<130	
Benzene	ug/kg					<6.3	<6.3	
Benzene (screening)	ug/kg	<30	<31	<33	<31	<28		
1,2,4-Trichlorobenzene	ug/kg					<420	<420	
1,2-Dichlorobenzene	ug/kg					<420	<420	
1,3-Dichlorobenzene	ug/kg					<420	<420	
1,4-Dichlorobenzene	ug/kg					<420	<420	
Chlorobenzene	ug/kg					<6.3	<6.3	
Ethylbenzene	ug/kg					<6.3	<6.3	
Ethylbenzene (screening)	ug/kg	270	<31	<33	<31	<28		
2-Butanone(MEK)	ug/kg					<130	<130	
Carbon Disulfide	ug/kg					<6.3	<6.3	
Carbon Tetrachloride	ug/kg					<6.3	<6.3	
1,1,1-Trichloroethane	ug/kg					<6.3	<6.3	
1,1,1-Trichloroethane (screening)	ug/kg	<300	<310	<330	<310	<280		
1,1,2,2-Tetrachloroethane	ug/kg					<6.3	<6.3	
1,1,2-Trichloroethane	ug/kg					<6.3	<6.3	
1,1-Dichloroethane	ug/kg					<6.3	<6.3	
1,2-Dichloroethane	ug/kg					<6.3	<6.3	

Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation



Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-04	XT-SB-04	XT-SB-04	XT-SB-04	XT-SB-04	XT-SB-04	XT-SB-04
	Sample ID	1995570	1995571	1995572	1995573	1995574	1995623	1995625
	Sample Date	05/03/2001	05/03/2001	05/03/2001	05/03/2001	05/03/2001	05/16/2001	05/16/2001
	Sample Time	12:00	12:05	12:10	12:15	12:20	11:10	11:25
	Sample Depth	2' - 4'	4' - 6'	6' - 8'	8' - 10'	10' - 12'	4' - 6'	8' - 10'
	Laboratory	LEA	LEA	LEA	LEA	LEA	STLC	STLC
	Lab. Number	35052-0081	35052-0082	35052-0083	35052-0084	35052-0085	A1E170190009	A1E170190011
Constituent	Units							
Chloroethane	ug/kg					<13	<13	
1,1-Dichloroethylene	ug/kg					<6.3	<6.3	
Vinyl Chloride	ug/kg					<13	<13	
cis-1,2-Dichloroethylene	ug/kg					<6.3	<6.3	
Tetrachloroethylene	ug/kg					<6.3	<6.3	
Tetrachloroethylene (screening)	ug/kg	310	<31	<33	<31	<28		
trans-1,2-Dichloroethylene	ug/kg					<6.3	<6.3	
Trichloroethylene	ug/kg					<6.3	<6.3	
Trichloroethylene (screening)	ug/kg	<30	<31	<33	<31	<28		
Hexanone,2-	ug/kg					<63	<63	
Bromomethane	ug/kg					<13	<13	
Bromodichloromethane	ug/kg					<6.3	<6.3	
Chloromethane	ug/kg					<13	<13	
Dibromochloromethane	ug/kg					<6.3	<6.3	
Methylene Chloride	ug/kg					<6.3	<6.3	
Bromoform	ug/kg					<6.3	<6.3	
Chloroform	ug/kg					<6.3	<6.3	
Methyl Isobutyl Ketone	ug/kg					<6.3	<6.3	
1,2-Dichloropropane	ug/kg					<6.3	<6.3	
1,3-Dichloropropene	ug/kg					<6.3	<6.3	
Styrene	ug/kg					<6.3	<6.3	
Toluene	ug/kg					<6.3	<6.3	
Toluene (screening)	ug/kg	240	<31	<33	<31	<28		
o-Xylene (screening)	ug/kg	<30 R1	<31	<33	<31	<28		
Xylenes	ug/kg					<6.3	<6.3	
Xylenes,m- & p- (screening)	ug/kg	<44 R1	<46	<49	<46	<42		
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Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation



Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-05						
	Sample ID	1995575	1995576	1995577	1995578	1995579	1995579	1995580
	Sample Date	05/03/2001	05/03/2001	05/03/2001	05/03/2001	05/03/2001	05/03/2001	05/03/2001
	Sample Time	13:45	13:50	13:55	14:00	14:05	14:05	14:10
	Sample Depth	0' - 2'	2' - 4'	4' - 6'	6' - 8'	8' - 10'	8' - 10'	10' - 12'
	Laboratory	LEA						
	Lab. Number	35052-0086	35052-0087	35052-0088	35052-0089	35052-0090	35052-0091	35052-0097
Constituent	Units							
Date Organics Analyzed	-	05/07/2001	05/07/2001	05/07/2001	05/07/2001	05/07/2001	05/07/2001	05/08/2001
Date Physical Analyzed	-							
Date Semi-volatile Organics Analyzed	-							
Hexachlorobenzene	ug/kg							
Hexachlorocyclopentadiene	ug/kg							
Extract. Petroleum Hydrocarbons EPA 1664	mg/kg							
Total Solids	%							
Acenaphthylene	ug/kg							
Acenaphthene	ug/kg							
2-Nitroaniline	ug/kg							
3-Nitroaniline	ug/kg							
4-Chloroaniline	ug/kg							
4-Nitroaniline	ug/kg							
Anthracene	ug/kg							
Benzo(a)anthracene	ug/kg							
Benzo(b)fluoranthene	ug/kg							
Nitrobenzene	ug/kg							
3,3'-Dichlorobenzidene	ug/kg							
Benzo(a)pyrene	ug/kg							
Benzo(g,h,i)perylene	ug/kg							
Benzo(k)fluoranthene	ug/kg							
Hexachlorobutadiene	ug/kg							
Carbazole	ug/kg							
Chrysene	ug/kg							
Cresol,4,6-dinitro-o-	ug/kg							
Cresol,4-chloro-m-	ug/kg							
2-Methylphenol	ug/kg							
4-Methylphenol	ug/kg							



Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation

Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-05						
Sample ID	1995575	1995576	1995577	1995578	1995579	1995579	1995580	1995580
Sample Date	05/03/2001	05/03/2001	05/03/2001	05/03/2001	05/03/2001	05/03/2001	05/03/2001	05/03/2001
Sample Time	13:45	13:50	13:55	14:00	14:05	14:05	14:10	14:10
Sample Depth	0' - 2'	2' - 4'	4' - 6'	6' - 8'	8' - 10'	8' - 10'	10' - 12'	10' - 12'
Laboratory	LEA	LEA	LEA	LEA	LEA	LEA	LEA	LEA
Lab. Number	35052-0086	35052-0087	35052-0088	35052-0089	35052-0090	35052-0091	35052-0097	
Constituent	Units							
Dibenz(a,h)anthracene	ug/kg							
Dibenzofuran	ug/kg							
n-Nitrosodiphenylamine	ug/kg							
n-Nitrosodi-n-propylamine	ug/kg							
Hexachloroethane	ug/kg							
4-bromophenyl-phenylether	ug/kg							
4-Chlorophenyl-phenyl Ether	ug/kg							
bis(2-Chloroethyl)ether	ug/kg							
Fluoranthene	ug/kg							
Fluorene	ug/kg							
Indeno(1,2,3-cd)pyrene	ug/kg							
Isophorone	ug/kg							
Methane,bis(2-chloroethoxy)-	ug/kg							
Naphthalene	ug/kg							
2-Chloronaphthalene	ug/kg							
2-Methylnaphthalene	ug/kg							
Phenanthrene	ug/kg							
Phenol	ug/kg							
2,4,5-Trichlorophenol	ug/kg							
2,4,6-Trichlorophenol	ug/kg							
2,4-Dichlorophenol	ug/kg							
2,4-Dinitrophenol	ug/kg							
2-Chlorophenol	ug/kg							
2-Nitrophenol	ug/kg							
Phenol,4-nitro-	ug/kg							
Pentachlorophenol	ug/kg							
Butyl Benzyl Phthalate	ug/kg							
bis(2-ethyl hexyl)phthalate	ug/kg							



Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation

Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-05						
Sample ID	1995575	1995576	1995577	1995578	1995579	1995579	1995579	1995580
Sample Date	05/03/2001	05/03/2001	05/03/2001	05/03/2001	05/03/2001	05/03/2001	05/03/2001	05/03/2001
Sample Time	13:45	13:50	13:55	14:00	14:05	14:05	14:05	14:10
Sample Depth	0' - 2'	2' - 4'	4' - 6'	6' - 8'	8' - 10'	8' - 10'	8' - 10'	10' - 12'
Laboratory	LEA	LEA	LEA	LEA	LEA	LEA	LEA	LEA
Lab. Number	35052-0086	35052-0087	35052-0088	35052-0089	35052-0090	35052-0091	35052-0097	
Constituent	Units							
Di-n-butyl Phthalate	ug/kg							
Di-n-octyl Phthalate	ug/kg							
Diethyl Phthalate	ug/kg							
Dimethyl Phthalate	ug/kg							
Propane),2,2'-oxybis(2-chloro-	ug/kg							
Pyrene	ug/kg							
2,4-Dinitrotoluene	ug/kg							
2,6-Dinitrotoluene	ug/kg							
2,4-Dimethylphenol	ug/kg							
Acetone	ug/kg							
Benzene	ug/kg							
Benzene (screening)	ug/kg	<30	<31	<30	<31	<33	<33	<31
1,2,4-Trichlorobenzene	ug/kg							
1,2-Dichlorobenzene	ug/kg							
1,3-Dichlorobenzene	ug/kg							
1,4-Dichlorobenzene	ug/kg							
Chlorobenzene	ug/kg							
Ethylbenzene	ug/kg							
Ethylbenzene (screening)	ug/kg	<30	<31	<30	<31	<33	<33	<31
2-Butanone(MEK)	ug/kg							
Carbon Disulfide	ug/kg							
Carbon Tetrachloride	ug/kg							
1,1,1-Trichloroethane	ug/kg							
1,1,1-Trichloroethane (screening)	ug/kg	<300	<310	<300	<310	<330	<330	<310
1,1,2,2-Tetrachloroethane	ug/kg							
1,1,2-Trichloroethane	ug/kg							
1,1-Dichloroethane	ug/kg							
1,2-Dichloroethane	ug/kg							



Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation

Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-05						
Sample ID	1995575	1995576	1995577	1995578	1995579	1995579	1995580	1995580
Sample Date	05/03/2001	05/03/2001	05/03/2001	05/03/2001	05/03/2001	05/03/2001	05/03/2001	05/03/2001
Sample Time	13:45	13:50	13:55	14:00	14:05	14:05	14:10	14:10
Sample Depth	0' - 2'	2' - 4'	4' - 6'	6' - 8'	8' - 10'	8' - 10'	10' - 12'	10' - 12'
Laboratory	LEA	LEA	LEA	LEA	LEA	LEA	LEA	LEA
Lab. Number	35052-0086	35052-0087	35052-0088	35052-0089	35052-0090	35052-0091	35052-0097	
Constituent	Units							
Chloroethane	ug/kg							
1,1-Dichloroethylene	ug/kg							
Vinyl Chloride	ug/kg							
cis-1,2-Dichloroethylene	ug/kg							
Tetrachloroethylene	ug/kg							
Tetrachloroethylene (screening)	ug/kg	<30	<31	<30	<31	<33	<33	<31
trans-1,2-Dichloroethylene	ug/kg							
Trichloroethylene	ug/kg							
Trichloroethylene (screening)	ug/kg	<30	<31	<30	<31	<33	<33	<31
Hexanone,2-	ug/kg							
Bromomethane	ug/kg							
Bromodichloromethane	ug/kg							
Chloromethane	ug/kg							
Dibromochloromethane	ug/kg							
Methylene Chloride	ug/kg							
Bromoform	ug/kg							
Chloroform	ug/kg							
Methyl Isobutyl Ketone	ug/kg							
1,2-Dichloropropane	ug/kg							
1,3-Dichloropropene	ug/kg							
Styrene	ug/kg							
Toluene	ug/kg							
Toluene (screening)	ug/kg	<30	<31	<30	<31	<33	<33	<31
o-Xylene (screening)	ug/kg	<30	<31	<30	<31	<33	<33	<31
Xylenes	ug/kg							
Xylenes,m- & p- (screening)	ug/kg	<44	<46	<45	<46	<49	<49	<46
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Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation



Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-05	XT-SB-05	XT-SB-06	XT-SB-06	XT-SB-06	XT-SB-06	XT-SB-06
	Sample ID	1995617	1995619	1995581	1995582	1995583	1995584	1995585
	Sample Date	05/16/2001	05/16/2001	05/03/2001	05/03/2001	05/03/2001	05/03/2001	05/03/2001
	Sample Time	09:50	10:00	14:55	15:00	15:05	15:10	15:15
	Sample Depth	4' - 6'	8' - 10'	0' - 2'	2' - 4'	4' - 6'	6' - 8'	8' - 10'
	Laboratory	STLC	STLC	LEA	LEA	LEA	LEA	LEA
	Lab. Number	A1E170190003	A1E170190005	35052-0098	35052-0099	35052-0101	35052-0100	35052-0102
Constituent	Units							
Date Organics Analyzed	-	05/21/2001	05/22/2001	05/08/2001	05/08/2001	05/08/2001	05/08/2001	05/08/2001
Date Physical Analyzed	-	05/21/2001	05/21/2001					
Date Semi-volatile Organics Analyzed	-	05/22/2001	05/22/2001					
Hexachlorobenzene	ug/kg	<410	<360					
Hexachlorocyclopentadiene	ug/kg	<2000	<1700					
Extract. Petroleum Hydrocarbons EPA 1664	mg/kg							
Total Solids	%	80.4	92.7					
Acenaphthylene	ug/kg	<410	<360					
Acenaphthene	ug/kg	<410	<360					
2-Nitroaniline	ug/kg	<2000	<1700					
3-Nitroaniline	ug/kg	<2000	<1700					
4-Chloroaniline	ug/kg	<410	<360					
4-Nitroaniline	ug/kg	<2000	<1700					
Anthracene	ug/kg	<410	<360					
Benzo(a)anthracene	ug/kg	<410	<360					
Benzo(b)fluoranthene	ug/kg	<410	<360					
Nitrobenzene	ug/kg	<410	<360					
3,3'-Dichlorobenzidine	ug/kg	<2000	<1700					
Benzo(a)pyrene	ug/kg	<410	<360					
Benzo(g,h,i)perylene	ug/kg	<410	<360					
Benzo(k)fluoranthene	ug/kg	<410	<360					
Hexachlorobutadiene	ug/kg	<410	<360					
Carbazole	ug/kg	<410	<360					
Chrysene	ug/kg	<410	<360					
Cresol,4,6-dinitro-o-	ug/kg	<2000	<1700					
Cresol,4-chloro-m-	ug/kg	<410	<360					
2-Methylphenol	ug/kg	<410	<360					
4-Methylphenol	ug/kg	<410	<360					



Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation

Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-05	XT-SB-05	XT-SB-06	XT-SB-06	XT-SB-06	XT-SB-06	XT-SB-06
Sample ID	1995617	1995619	1995581	1995582	1995583	1995584	1995585	
Sample Date	05/16/2001	05/16/2001	05/03/2001	05/03/2001	05/03/2001	05/03/2001	05/03/2001	05/03/2001
Sample Time	09:50	10:00	14:55	15:00	15:05	15:10	15:15	
Sample Depth	4' - 6'	8' - 10'	0' - 2'	2' - 4'	4' - 6'	6' - 8'	8' - 10'	
Laboratory	STLC	STLC	LEA	LEA	LEA	LEA	LEA	
Lab. Number	A1E170190003	A1E170190005	35052-0098	35052-0099	35052-0101	35052-0100	35052-0102	
Constituent	Units							
Dibenz(a,h)anthracene	ug/kg	<410	<360					
Dibenzofuran	ug/kg	<410	<360					
n-Nitrosodiphenylamine	ug/kg	<410	<360					
n-Nitrosodi-n-propylamine	ug/kg	<410	<360					
Hexachloroethane	ug/kg	<410	<360					
4-bromophenyl-phenylether	ug/kg	<410	<360					
4-Chlorophenyl-phenyl Ether	ug/kg	<410	<360					
bis(2-Chloroethyl)ether	ug/kg	<410	<360					
Fluoranthene	ug/kg	<410	<360					
Fluorene	ug/kg	<410	<360					
Indeno(1,2,3-cd)pyrene	ug/kg	<410	<360					
Isophorone	ug/kg	<410	<360					
Methane,bis(2-chloroethoxy)-	ug/kg	<410	<360					
Naphthalene	ug/kg	<410	<360					
2-Chloronaphthalene	ug/kg	<410	<360					
2-Methylnaphthalene	ug/kg	<410	<360					
Phenanthrene	ug/kg	<410	<360					
Phenol	ug/kg	<410	<360					
2,4,5-Trichlorophenol	ug/kg	<410	<360					
2,4,6-Trichlorophenol	ug/kg	<410	<360					
2,4-Dichlorophenol	ug/kg	<410	<360					
2,4-Dinitrophenol	ug/kg	<2000	<1700					
2-Chlorophenol	ug/kg	<410	<360					
2-Nitrophenol	ug/kg	<410	<360					
Phenol,4-nitro-	ug/kg	<2000	<1700					
Pentachlorophenol	ug/kg	<410	<360					
Butyl Benzyl Phthalate	ug/kg	<410	<360					
bis(2-ethyl hexyl)phthalate	ug/kg	<410	<360					

Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation

Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-05	XT-SB-05	XT-SB-06	XT-SB-06	XT-SB-06	XT-SB-06	XT-SB-06
Sample ID	1995617	1995619	1995581	1995582	1995583	1995584	1995585	
Sample Date	05/16/2001	05/16/2001	05/03/2001	05/03/2001	05/03/2001	05/03/2001	05/03/2001	05/03/2001
Sample Time	09:50	10:00	14:55	15:00	15:05	15:10	15:15	
Sample Depth	4' - 6'	8' - 10'	0' - 2'	2' - 4'	4' - 6'	6' - 8'	8' - 10'	
Laboratory	STLC	STLC	LEA	LEA	LEA	LEA	LEA	
Lab. Number	A1E170190003	A1E170190005	35052-0098	35052-0099	35052-0101	35052-0100	35052-0102	
Constituent	Units							
Di-n-butyl Phthalate	ug/kg	<410	<360					
Di-n-octyl Phthalate	ug/kg	<410	<360					
Diethyl Phthalate	ug/kg	<410	<360					
Dimethyl Phthalate	ug/kg	<410	<360					
Propane),2,2'-oxybis(2-chloro-	ug/kg	<410	<360					
Pyrene	ug/kg	<410	<360					
2,4-Dinitrotoluene	ug/kg	<410	<360					
2,6-Dinitrotoluene	ug/kg	<410	<360					
2,4-Dimethylphenol	ug/kg	<410	<360					
Acetone	ug/kg	9.0	<110					
Benzene	ug/kg	<6.2	<5.4					
Benzene (screening)	ug/kg			<32	<32	<29	<31	<29
1,2,4-Trichlorobenzene	ug/kg	<410	<360					
1,2-Dichlorobenzene	ug/kg	<410	<360					
1,3-Dichlorobenzene	ug/kg	<410	<360					
1,4-Dichlorobenzene	ug/kg	<410	<360					
Chlorobenzene	ug/kg	<6.2	<5.4					
Ethylbenzene	ug/kg	<6.2	<5.4					
Ethylbenzene (screening)	ug/kg			<32	<32	<29	<31	<29
2-Butanone(MEK)	ug/kg	<120	<110					
Carbon Disulfide	ug/kg	<6.2	<5.4					
Carbon Tetrachloride	ug/kg	<6.2	<5.4					
1,1,1-Trichloroethane	ug/kg	<6.2	<5.4					
1,1,1-Trichloroethane (screening)	ug/kg			<320	<320	<290	<310	<290
1,1,2,2-Tetrachloroethane	ug/kg	<6.2	<5.4					
1,1,2-Trichloroethane	ug/kg	<6.2	<5.4					
1,1-Dichloroethane	ug/kg	<6.2	<5.4					
1,2-Dichloroethane	ug/kg	<6.2	<5.4					



Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation

Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-05	XT-SB-05	XT-SB-06	XT-SB-06	XT-SB-06	XT-SB-06	XT-SB-06
	Sample ID	1995617	1995619	1995581	1995582	1995583	1995584	1995585
	Sample Date	05/16/2001	05/16/2001	05/03/2001	05/03/2001	05/03/2001	05/03/2001	05/03/2001
	Sample Time	09:50	10:00	14:55	15:00	15:05	15:10	15:15
	Sample Depth	4' - 6'	8' - 10'	0' - 2'	2' - 4'	4' - 6'	6' - 8'	8' - 10'
	Laboratory	STLC	STLC	LEA	LEA	LEA	LEA	LEA
	Lab. Number	A1E170190003	A1E170190005	35052-0098	35052-0099	35052-0101	35052-0100	35052-0102
Constituent	Units							
Chloroethane	ug/kg	<12	<11					
1,1-Dichloroethylene	ug/kg	<6.2	<5.4					
Vinyl Chloride	ug/kg	<12	<11					
cis-1,2-Dichloroethylene	ug/kg	<6.2	<5.4					
Tetrachloroethylene	ug/kg	<6.2	<5.4					
Tetrachloroethylene (screening)	ug/kg			<32	<32	<29	<31	<29
trans-1,2-Dichloroethylene	ug/kg	<6.2	<5.4					
Trichloroethylene	ug/kg	<6.2	<5.4					
Trichloroethylene (screening)	ug/kg			<32	<32	<29	<31	<29
Hexanone,2-	ug/kg	<62	<54					
Bromomethane	ug/kg	<12	<11					
Bromodichloromethane	ug/kg	<6.2	<5.4					
Chloromethane	ug/kg	<12	<11					
Dibromochloromethane	ug/kg	<6.2	<5.4					
Methylene Chloride	ug/kg	<6.2	<5.4					
Bromoform	ug/kg	<6.2	<5.4					
Chloroform	ug/kg	<6.2	<5.4					
Methyl Isobutyl Ketone	ug/kg	<6.2	<5.4					
1,2-Dichloropropane	ug/kg	<6.2	<5.4					
1,3-Dichloropropene	ug/kg	<6.2	<5.4					
Styrene	ug/kg	<6.2	<5.4					
Toluene	ug/kg	<6.2	<5.4					
Toluene (screening)	ug/kg			<32	<32	<29	<31	<29
o-Xylene (screening)	ug/kg			<32	<32	<29	<31	<29
Xylenes	ug/kg	<6.2	<5.4					
Xylenes,m- & p- (screening)	ug/kg			<48	<47	<43	<46	<44
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Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation



Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-06	XT-SB-06	XT-SB-06	XT-SB-07	XT-SB-07	XT-SB-07
Sample ID	1995586	1995635	1995637	1995589	1995590	1995591	1995591
Sample Date	05/03/2001	05/16/2001	05/16/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001
Sample Time	15:20	13:30	13:40	08:40	08:45	08:50	08:50
Sample Depth	10' - 12'	4' - 6'	8' - 10'	0' - 2'	2' - 4'	4' - 6'	4' - 6'
Laboratory	LEA	STLC	STLC	LEA	LEA	LEA	STL-
Lab. Number	35052-0103	A1E170190021	A1E170190023	35052-0107	35052-0108	35052-0109	A1E050157004
Constituent	Units						
Date Organics Analyzed	-	05/08/2001	05/22/2001	05/22/2001	05/08/2001	05/08/2001	05/08/2001
Date Physical Analyzed	-		05/21/2001	05/21/2001			05/24/2001
Date Semi-volatile Organics Analyzed	-		05/21/2001	05/22/2001			
Hexachlorobenzene	ug/kg		<360	<410			
Hexachlorocyclopentadiene	ug/kg		<1800	<2000			
Extract. Petroleum Hydrocarbons EPA 1664	mg/kg						<12.5
Total Solids	%		90.8	80.3			
Acenaphthylene	ug/kg		<360	<410			
Acenaphthene	ug/kg		<360	<410			
2-Nitroaniline	ug/kg		<1800	<2000			
3-Nitroaniline	ug/kg		<1800	<2000			
4-Chloroaniline	ug/kg		<360	<410			
4-Nitroaniline	ug/kg		<1800	<2000			
Anthracene	ug/kg		<360	<410			
Benzo(a)anthracene	ug/kg		<360	<410			
Benzo(b)fluoranthene	ug/kg		<360	<410			
Nitrobenzene	ug/kg		<360	<410			
3,3'-Dichlorobenzidene	ug/kg		<1800	<2000			
Benzo(a)pyrene	ug/kg		<360	<410			
Benzo(g,h,i)perylene	ug/kg		<360	<410			
Benzo(k)fluoranthene	ug/kg		<360	<410			
Hexachlorobutadiene	ug/kg		<360	<410			
Carbazole	ug/kg		<360	<410			
Chrysene	ug/kg		<360	<410			
Cresol,4,6-dinitro-o-	ug/kg		<1800	<2000			
Cresol,4-chloro-m-	ug/kg		<360	<410			
2-Methylphenol	ug/kg		<360	<410			
4-Methylphenol	ug/kg		<360	<410			

LEA

Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation

Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-06	XT-SB-06	XT-SB-06	XT-SB-07	XT-SB-07	XT-SB-07	XT-SB-07
	Sample ID	1995586	1995635	1995637	1995589	1995590	1995591	1995591
	Sample Date	05/03/2001	05/16/2001	05/16/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001
	Sample Time	15:20	13:30	13:40	08:40	08:45	08:50	08:50
	Sample Depth	10' - 12'	4' - 6'	8' - 10'	0' - 2'	2' - 4'	4' - 6'	4' - 6'
	Laboratory	LEA	STLC	STLC	LEA	LEA	LEA	STL-
	Lab. Number	35052-0103	A1E170190021	A1E170190023	35052-0107	35052-0108	35052-0109	A1E050157004
Constituent	Units							
Dibenz(a,h)anthracene	ug/kg		<360	<410				
Dibenzofuran	ug/kg		<360	<410				
n-Nitrosodiphenylamine	ug/kg		<360	<410				
n-Nitrosodi-n-propylamine	ug/kg		<360	<410				
Hexachloroethane	ug/kg		<360	<410				
4-bromophenyl-phenylether	ug/kg		<360	<410				
4-Chlorophenyl-phenyl Ether	ug/kg		<360	<410				
bis(2-Chloroethyl)ether	ug/kg		<360	<410				
Fluoranthene	ug/kg		<360	<410				
Fluorene	ug/kg		<360	<410				
Indeno(1,2,3-cd)pyrene	ug/kg		<360	<410				
Isophorone	ug/kg		<360	<410				
Methane,bis(2-chloroethoxy)-	ug/kg		<360	<410				
Naphthalene	ug/kg		<360	<410				
2-Chloronaphthalene	ug/kg		<360	<410				
2-Methylnaphthalene	ug/kg		<360	<410				
Phenanthrene	ug/kg		<360	<410				
Phenol	ug/kg		<360	<410				
2,4,5-Trichlorophenol	ug/kg		<360	<410				
2,4,6-Trichlorophenol	ug/kg		<360	<410				
2,4-Dichlorophenol	ug/kg		<360	<410				
2,4-Dinitrophenol	ug/kg		<1800	<2000				
2-Chlorophenol	ug/kg		<360	<410				
2-Nitrophenol	ug/kg		<360	<410				
Phenol,4-nitro-	ug/kg		<1800	<2000				
Pentachlorophenol	ug/kg		<360	<410				
Butyl Benzyl Phthalate	ug/kg		<360	<410				
bis(2-ethyl hexyl)phthalate	ug/kg		<360	<410				



Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation

Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-06	XT-SB-06	XT-SB-06	XT-SB-07	XT-SB-07	XT-SB-07	XT-SB-07
Sample ID	1995586	1995635	1995637	1995589	1995590	1995591	1995591	1995591
Sample Date	05/03/2001	05/16/2001	05/16/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001
Sample Time	15:20	13:30	13:40	08:40	08:45	08:50	08:50	08:50
Sample Depth	10' - 12'	4' - 6'	8' - 10'	0' - 2'	2' - 4'	4' - 6'	4' - 6'	4' - 6'
Laboratory	LEA	STLC	STLC	LEA	LEA	LEA	LEA	STL-
Lab. Number	35052-0103	A1E170190021	A1E170190023	35052-0107	35052-0108	35052-0109	35052-0109	A1E050157004
Constituent	Units							
Di-n-butyl Phthalate	ug/kg		<360	<410				
Di-n-octyl Phthalate	ug/kg		<360	<410				
Diethyl Phthalate	ug/kg		<360	<410				
Dimethyl Phthalate	ug/kg		<360	<410				
Propane),2,2'-oxybis(2-chloro-	ug/kg		<360	<410				
Pyrene	ug/kg		<360	<410				
2,4-Dinitrotoluene	ug/kg		<360	<410				
2,6-Dinitrotoluene	ug/kg		<360	<410				
2,4-Dimethylphenol	ug/kg		<360	<410				
Acetone	ug/kg		<110	<120				
Benzene	ug/kg		<5.5	<6.2				
Benzene (screening)	ug/kg	<29			<29	<28	<28	
1,2,4-Trichlorobenzene	ug/kg		<360	<410				
1,2-Dichlorobenzene	ug/kg		<360	<410				
1,3-Dichlorobenzene	ug/kg		<360	<410				
1,4-Dichlorobenzene	ug/kg		<360	<410				
Chlorobenzene	ug/kg		<5.5	<6.2				
Ethylbenzene	ug/kg		<5.5	<6.2				
Ethylbenzene (screening)	ug/kg	<29			<29	<28	<28	
2-Butanone(MEK)	ug/kg		<110	<120				
Carbon Disulfide	ug/kg		<5.5	<6.2				
Carbon Tetrachloride	ug/kg		<5.5	<6.2				
1,1,1-Trichloroethane	ug/kg		<5.5	<6.2				
1,1,1-Trichloroethane (screening)	ug/kg	<290			<290	<280	<280	
1,1,2,2-Tetrachloroethane	ug/kg		<5.5	<6.2				
1,1,2-Trichloroethane	ug/kg		<5.5	<6.2				
1,1-Dichloroethane	ug/kg		<5.5	<6.2				
1,2-Dichloroethane	ug/kg		<5.5	<6.2				



Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation

Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-06	XT-SB-06	XT-SB-06	XT-SB-07	XT-SB-07	XT-SB-07	XT-SB-07
	Sample ID	1995586	1995635	1995637	1995589	1995590	1995591	1995591
	Sample Date	05/03/2001	05/16/2001	05/16/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001
	Sample Time	15:20	13:30	13:40	08:40	08:45	08:50	08:50
	Sample Depth	10' - 12'	4' - 6'	8' - 10'	0' - 2'	2' - 4'	4' - 6'	4' - 6'
	Laboratory	LEA	STLC	STLC	LEA	LEA	LEA	STL-
	Lab. Number	35052-0103	A1E170190021	A1E170190023	35052-0107	35052-0108	35052-0109	A1E050157004
Constituent	Units							
Chloroethane	ug/kg		<11	<12				
1,1-Dichloroethylene	ug/kg		<5.5	<6.2				
Vinyl Chloride	ug/kg		<11	<12				
cis-1,2-Dichloroethylene	ug/kg		<5.5	<6.2				
Tetrachloroethylene	ug/kg		<5.5	<6.2				
Tetrachloroethylene (screening)	ug/kg	<29			<29	<28	<28	
trans-1,2-Dichloroethylene	ug/kg		<5.5	<6.2				
Trichloroethylene	ug/kg		<5.5	<6.2				
Trichloroethylene (screening)	ug/kg	<29			<29	<28	<28	
Hexanone,2-	ug/kg		<55	<62				
Bromomethane	ug/kg		<11	<12				
Bromodichloromethane	ug/kg		<5.5	<6.2				
Chloromethane	ug/kg		<11	<12				
Dibromochloromethane	ug/kg		<5.5	<6.2				
Methylene Chloride	ug/kg		<5.5	<6.2				
Bromoform	ug/kg		<5.5	<6.2				
Chloroform	ug/kg		<5.5	<6.2				
Methyl Isobutyl Ketone	ug/kg		<5.5	<6.2				
1,2-Dichloropropane	ug/kg		<5.5	<6.2				
1,3-Dichloropropene	ug/kg		<5.5	<6.2				
Styrene	ug/kg		<5.5	<6.2				
Toluene	ug/kg		<5.5	<6.2				
Toluene (screening)	ug/kg	<29			<29	<28	<28	
o-Xylene (screening)	ug/kg	<29			<29	<28	<28	
Xylenes	ug/kg		<5.5	<6.2				
Xylenes,m- & p- (screening)	ug/kg	<44			<44	<41	<41	
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Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation

Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-07	XT-SB-07	XT-SB-07	XT-SB-07	XT-SB-07	XT-SB-07	XT-SB-08
Sample ID	1995591	1995592	1995593	1995593	1995593	1995594	1995595	
Sample Date	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001
Sample Time	08:50	08:55	09:00	09:00	09:00	09:05	09:55	
Sample Depth	4' - 6'	6' - 8'	8' - 10'	8' - 10'	8' - 10'	10' - 12'	0' - 2'	
Laboratory	STLC	LEA	LEA	STL-	STLC	LEA	LEA	
Lab. Number	A1E050157004	35052-0110	35052-0111	A1E050157006	A1E050157006	35052-0112	35052-0113	
Constituent	Units							
Date Organics Analyzed	-	05/16/2001	05/08/2001	05/08/2001		05/16/2001	05/08/2001	05/08/2001
Date Physical Analyzed	-	05/17/2001			05/24/2001	05/17/2001		
Date Semi-volatile Organics Analyzed	-	05/17/2001				05/17/2001		
Hexachlorobenzene	ug/kg	<430				<430		
Hexachlorocyclopentadiene	ug/kg	<2100				<2100		
Extract. Petroleum Hydrocarbons EPA 1664	mg/kg				<12.5			
Total Solids	%	77.4				77.1		
Acenaphthylene	ug/kg	<430				<430		
Acenaphthene	ug/kg	<430				<430		
2-Nitroaniline	ug/kg	<2100				<2100		
3-Nitroaniline	ug/kg	<2100				<2100		
4-Chloroaniline	ug/kg	<430				<430		
4-Nitroaniline	ug/kg	<2100				<2100		
Anthracene	ug/kg	<430				<430		
Benzo(a)anthracene	ug/kg	<430				<430		
Benzo(b)fluoranthene	ug/kg	<430				<430		
Nitrobenzene	ug/kg	<430				<430		
3,3'-Dichlorobenzidene	ug/kg	<2100				<2100		
Benzo(a)pyrene	ug/kg	<430				<430		
Benzo(g,h,i)perylene	ug/kg	<430				<430		
Benzo(k)fluoranthene	ug/kg	<430				<430		
Hexachlorobutadiene	ug/kg	<430				<430		
Carbazole	ug/kg	<430				<430		
Chrysene	ug/kg	<430				<430		
Cresol,4,6-dinitro-o-	ug/kg	<2100				<2100		
Cresol,4-chloro-m-	ug/kg	<430				<430		
2-Methylphenol	ug/kg	<430				<430		
4-Methylphenol	ug/kg	<430				<430		



Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation

Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-07	XT-SB-07	XT-SB-07	XT-SB-07	XT-SB-07	XT-SB-07	XT-SB-08
Sample ID	1995591	1995592	1995593	1995593	1995593	1995594	1995594	1995595
Sample Date	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001
Sample Time	08:50	08:55	09:00	09:00	09:00	09:05	09:05	09:55
Sample Depth	4' - 6'	6' - 8'	8' - 10'	8' - 10'	8' - 10'	10' - 12'	10' - 12'	0' - 2'
Laboratory	STLC	LEA	LEA	STL-	STLC	LEA	LEA	
Lab. Number	A1E050157004	35052-0110	35052-0111	A1E050157006	A1E050157006	35052-0112	35052-0113	
Constituent	Units							
Dibenz(a,h)anthracene	ug/kg	<430				<430		
Dibenzofuran	ug/kg	<430				<430		
n-Nitrosodiphenylamine	ug/kg	<430				<430		
n-Nitrosodi-n-propylamine	ug/kg	<430				<430		
Hexachloroethane	ug/kg	<430				<430		
4-bromophenyl-phenylether	ug/kg	<430				<430		
4-Chlorophenyl-phenyl Ether	ug/kg	<430				<430		
bis(2-Chloroethyl)ether	ug/kg	<430				<430		
Fluoranthene	ug/kg	<430				<430		
Fluorene	ug/kg	<430				<430		
Indeno(1,2,3-cd)pyrene	ug/kg	<430				<430		
Isophorone	ug/kg	<430				<430		
Methane,bis(2-chloroethoxy)-	ug/kg	<430				<430		
Naphthalene	ug/kg	<430				<430		
2-Chloronaphthalene	ug/kg	<430				<430		
2-Methylnaphthalene	ug/kg	<430				<430		
Phenanthrene	ug/kg	<430				<430		
Phenol	ug/kg	<430				<430		
2,4,5-Trichlorophenol	ug/kg	<430				<430		
2,4,6-Trichlorophenol	ug/kg	<430				<430		
2,4-Dichlorophenol	ug/kg	<430				<430		
2,4-Dinitrophenol	ug/kg	<2100				<2100		
2-Chlorophenol	ug/kg	<430				<430		
2-Nitrophenol	ug/kg	<430				<430		
Phenol,4-nitro-	ug/kg	<2100				<2100		
Pentachlorophenol	ug/kg	<430				<430		
Butyl Benzyl Phthalate	ug/kg	<430				<430		
bis(2-ethyl hexyl)phthalate	ug/kg	<430				<430		



Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation

Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-07	XT-SB-07	XT-SB-07	XT-SB-07	XT-SB-07	XT-SB-07	XT-SB-08
	Sample ID	1995591	1995592	1995593	1995593	1995593	1995594	1995595
	Sample Date	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001
	Sample Time	08:50	08:55	09:00	09:00	09:00	09:05	09:55
	Sample Depth	4' - 6'	6' - 8'	8' - 10'	8' - 10'	8' - 10'	10' - 12'	0' - 2'
	Laboratory	STLC	LEA	LEA	STL-	STLC	LEA	LEA
	Lab. Number	A1E050157004	35052-0110	35052-0111	A1E050157006	A1E050157006	35052-0112	35052-0113
Constituent	Units							
Di-n-butyl Phthalate	ug/kg	<430				<430		
Di-n-octyl Phthalate	ug/kg	<430				<430		
Diethyl Phthalate	ug/kg	<430				<430		
Dimethyl Phthalate	ug/kg	<430				<430		
Propane),2,2'-oxybis(2-chloro-	ug/kg	<430				<430		
Pyrene	ug/kg	<430				<430		
2,4-Dinitrotoluene	ug/kg	<430				<430		
2,6-Dinitrotoluene	ug/kg	<430				<430		
2,4-Dimethylphenol	ug/kg	<430				<430		
Acetone	ug/kg	<130				<130		
Benzene	ug/kg	<6.5				<6.5		
Benzene (screening)	ug/kg		<28	<29			<28	<29
1,2,4-Trichlorobenzene	ug/kg	<430				<430		
1,2-Dichlorobenzene	ug/kg	<430				<430		
1,3-Dichlorobenzene	ug/kg	<430				<430		
1,4-Dichlorobenzene	ug/kg	<430				<430		
Chlorobenzene	ug/kg	<6.5				<6.5		
Ethylbenzene	ug/kg	<6.5				<6.5		
Ethylbenzene (screening)	ug/kg		<28	<29			<28	<29
2-Butanone(MEK)	ug/kg	<130				<130		
Carbon Disulfide	ug/kg	<6.5				<6.5		
Carbon Tetrachloride	ug/kg	<6.5				<6.5		
1,1,1-Trichloroethane	ug/kg	<6.5				<6.5		
1,1,1-Trichloroethane (screening)	ug/kg		<280	<290			<280	<290
1,1,2,2-Tetrachloroethane	ug/kg	<6.5				<6.5		
1,1,2-Trichloroethane	ug/kg	<6.5				<6.5		
1,1-Dichloroethane	ug/kg	<6.5				<6.5		
1,2-Dichloroethane	ug/kg	<6.5				<6.5		



Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation

Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-07	XT-SB-07	XT-SB-07	XT-SB-07	XT-SB-07	XT-SB-07	XT-SB-08
Sample ID	1995591	1995592	1995593	1995593	1995593	1995594	1995595	
Sample Date	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001
Sample Time	08:50	08:55	09:00	09:00	09:00	09:05	09:55	
Sample Depth	4' - 6'	6' - 8'	8' - 10'	8' - 10'	8' - 10'	10' - 12'	0' - 2'	
Laboratory	STLC	LEA	LEA	STL-	STLC	LEA	LEA	
Lab. Number	A1E050157004	35052-0110	35052-0111	A1E050157006	A1E050157006	35052-0112	35052-0113	
Constituent	Units							
Chloroethane	ug/kg	<13				<13		
1,1-Dichloroethylene	ug/kg	<6.5				<6.5		
Vinyl Chloride	ug/kg	<13				<13		
cis-1,2-Dichloroethylene	ug/kg	<6.5				<6.5		
Tetrachloroethylene	ug/kg	<6.5				<6.5		
Tetrachloroethylene (screening)	ug/kg		<28	<29			<28	<29
trans-1,2-Dichloroethylene	ug/kg	<6.5				<6.5		
Trichloroethylene	ug/kg	<6.5				<6.5		
Trichloroethylene (screening)	ug/kg		<28	<29			<28	<29
Hexanone,2-	ug/kg	<65				<65		
Bromomethane	ug/kg	<13				<13		
Bromodichloromethane	ug/kg	<6.5				<6.5		
Chloromethane	ug/kg	<13				<13		
Dibromochloromethane	ug/kg	<6.5				<6.5		
Methylene Chloride	ug/kg	<6.5				<6.5		
Bromoform	ug/kg	<6.5				<6.5		
Chloroform	ug/kg	<6.5				<6.5		
Methyl Isobutyl Ketone	ug/kg	<6.5				<6.5		
1,2-Dichloropropane	ug/kg	<6.5				<6.5		
1,3-Dichloropropene	ug/kg	<6.5				<6.5		
Styrene	ug/kg	<6.5				<6.5		
Toluene	ug/kg	<6.5				<6.5		
Toluene (screening)	ug/kg		<28	<29			<28	<29
o-Xylene (screening)	ug/kg		<28	<29			<28	<29
Xylenes	ug/kg	<6.5				<6.5		
Xylenes,m- & p- (screening)	ug/kg		<42	<44			<41	<44
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Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation

Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-08	XT-SB-08	XT-SB-08	XT-SB-08	XT-SB-08	XT-SB-08	XT-SB-08
Sample ID	1995596	1995597	1995597	1995597	1995598	1995599	1995599	1995599
Sample Date	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001
Sample Time	10:00	10:05	10:05	10:05	10:10	10:15	10:15	10:15
Sample Depth	2' - 4'	4' - 6'	4' - 6'	4' - 6'	6' - 8'	8' - 10'	8' - 10'	8' - 10'
Laboratory	LEA	LEA	STL-	STLC	LEA	LEA	STL-	
Lab. Number	35052-0114	35052-0115	A1E050157010	A1E050157010	35052-0116	35052-0117	A1E050157012	
Constituent	Units							
Date Organics Analyzed	-	05/08/2001	05/08/2001		05/16/2001	05/08/2001	05/08/2001	
Date Physical Analyzed	-			05/24/2001	05/17/2001			05/24/2001
Date Semi-volatile Organics Analyzed	-				05/17/2001			
Hexachlorobenzene	ug/kg				<410			
Hexachlorocyclopentadiene	ug/kg				<2000			
Extract. Petroleum Hydrocarbons EPA 1664	mg/kg			<12.5				8800
Total Solids	%				79.7			
Acenaphthylene	ug/kg				<410			
Acenaphthene	ug/kg				<410			
2-Nitroaniline	ug/kg				<2000			
3-Nitroaniline	ug/kg				<2000			
4-Chloroaniline	ug/kg				<410			
4-Nitroaniline	ug/kg				<2000			
Anthracene	ug/kg				<410			
Benzo(a)anthracene	ug/kg				<410			
Benzo(b)fluoranthene	ug/kg				<410			
Nitrobenzene	ug/kg				<410			
3,3'-Dichlorobenzidene	ug/kg				<2000			
Benzo(a)pyrene	ug/kg				<410			
Benzo(g,h,i)perylene	ug/kg				<410			
Benzo(k)fluoranthene	ug/kg				<410			
Hexachlorobutadiene	ug/kg				<410			
Carbazole	ug/kg				<410			
Chrysene	ug/kg				<410			
Cresol,4,6-dinitro-o-	ug/kg				<2000			
Cresol,4-chloro-m-	ug/kg				<410			
2-Methylphenol	ug/kg				<410			
4-Methylphenol	ug/kg				<410			



Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation

Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-08	XT-SB-08	XT-SB-08	XT-SB-08	XT-SB-08	XT-SB-08	XT-SB-08
	Sample ID	1995596	1995597	1995597	1995597	1995598	1995599	1995599
	Sample Date	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001
	Sample Time	10:00	10:05	10:05	10:05	10:10	10:15	10:15
	Sample Depth	2' - 4'	4' - 6'	4' - 6'	4' - 6'	6' - 8'	8' - 10'	8' - 10'
	Laboratory	LEA	LEA	STL-	STLC	LEA	LEA	STL-
	Lab. Number	35052-0114	35052-0115	A1E050157010	A1E050157010	35052-0116	35052-0117	A1E050157012
Constituent	Units							
Dibenz(a,h)anthracene	ug/kg			<410				
Dibenzofuran	ug/kg			<410				
n-Nitrosodiphenylamine	ug/kg			<410				
n-Nitrosodi-n-propylamine	ug/kg			<410				
Hexachloroethane	ug/kg			<410				
4-bromophenyl-phenylether	ug/kg			<410				
4-Chlorophenyl-phenyl Ether	ug/kg			<410				
bis(2-Chloroethyl)ether	ug/kg			<410				
Fluoranthene	ug/kg			<410				
Fluorene	ug/kg			<410				
Indeno(1,2,3-cd)pyrene	ug/kg			<410				
Isophorone	ug/kg			<410				
Methane,bis(2-chloroethoxy)-	ug/kg			<410				
Naphthalene	ug/kg			<410				
2-Chloronaphthalene	ug/kg			<410				
2-Methylnaphthalene	ug/kg			<410				
Phenanthrene	ug/kg			<410				
Phenol	ug/kg			<410				
2,4,5-Trichlorophenol	ug/kg			<410				
2,4,6-Trichlorophenol	ug/kg			<410				
2,4-Dichlorophenol	ug/kg			<410				
2,4-Dinitrophenol	ug/kg			<2000				
2-Chlorophenol	ug/kg			<410				
2-Nitrophenol	ug/kg			<410				
Phenol,4-nitro-	ug/kg			<2000				
Pentachlorophenol	ug/kg			<410				
Butyl Benzyl Phthalate	ug/kg			<410				
bis(2-ethyl hexyl)phthalate	ug/kg			<410				

Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation



Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-08	XT-SB-08	XT-SB-08	XT-SB-08	XT-SB-08	XT-SB-08	XT-SB-08
Sample ID	1995596	1995597	1995597	1995597	1995598	1995599	1995599	1995599
Sample Date	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001
Sample Time	10:00	10:05	10:05	10:05	10:10	10:15	10:15	10:15
Sample Depth	2' - 4'	4' - 6'	4' - 6'	4' - 6'	6' - 8'	8' - 10'	8' - 10'	8' - 10'
Laboratory	LEA	LEA	STL-	STLC	LEA	LEA	STL-	
Lab. Number	35052-0114	35052-0115	A1E050157010	A1E050157010	35052-0116	35052-0117	A1E050157012	
Constituent	Units							
Di-n-butyl Phthalate	ug/kg			<410				
Di-n-octyl Phthalate	ug/kg			<410				
Diethyl Phthalate	ug/kg			<410				
Dimethyl Phthalate	ug/kg			<410				
Propane),2,2'-oxybis(2-chloro-	ug/kg			<410				
Pyrene	ug/kg			<410				
2,4-Dinitrotoluene	ug/kg			<410				
2,6-Dinitrotoluene	ug/kg			<410				
2,4-Dimethylphenol	ug/kg			<410				
Acetone	ug/kg			<130				
Benzene	ug/kg			<6.3				
Benzene (screening)	ug/kg	<28	<28		<28		<56 R1	
1,2,4-Trichlorobenzene	ug/kg			<410				
1,2-Dichlorobenzene	ug/kg			<410				
1,3-Dichlorobenzene	ug/kg			<410				
1,4-Dichlorobenzene	ug/kg			<410				
Chlorobenzene	ug/kg			<6.3				
Ethylbenzene	ug/kg			<6.3				
Ethylbenzene (screening)	ug/kg	<28	<28		<28		5500 E	
2-Butanone(MEK)	ug/kg			<130				
Carbon Disulfide	ug/kg			<6.3				
Carbon Tetrachloride	ug/kg			<6.3				
1,1,1-Trichloroethane	ug/kg			<6.3				
1,1,1-Trichloroethane (screening)	ug/kg	<280	<280		<280		<560 R1	
1,1,2,2-Tetrachloroethane	ug/kg			<6.3				
1,1,2-Trichloroethane	ug/kg			<6.3				
1,1-Dichloroethane	ug/kg			<6.3				
1,2-Dichloroethane	ug/kg			<6.3				



Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation

Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-08	XT-SB-08	XT-SB-08	XT-SB-08	XT-SB-08	XT-SB-08	XT-SB-08
	Sample ID	1995596	1995597	1995597	1995597	1995598	1995599	1995599
	Sample Date	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001
	Sample Time	10:00	10:05	10:05	10:05	10:10	10:15	10:15
	Sample Depth	2' - 4'	4' - 6'	4' - 6'	4' - 6'	6' - 8'	8' - 10'	8' - 10'
	Laboratory	LEA	LEA	STL-	STLC	LEA	LEA	STL-
	Lab. Number	35052-0114	35052-0115	A1E050157010	A1E050157010	35052-0116	35052-0117	A1E050157012
Constituent	Units							
Chloroethane	ug/kg				<13			
1,1-Dichloroethylene	ug/kg				<6.3			
Vinyl Chloride	ug/kg				<13			
cis-1,2-Dichloroethylene	ug/kg				<6.3			
Tetrachloroethylene	ug/kg				<6.3			
Tetrachloroethylene (screening)	ug/kg	<28	<28			<28	1700 E	
trans-1,2-Dichloroethylene	ug/kg				<6.3			
Trichloroethylene	ug/kg				<6.3			
Trichloroethylene (screening)	ug/kg	<28	<28			<28	7300 E	
Hexanone,2-	ug/kg				<63			
Bromomethane	ug/kg				<13			
Bromodichloromethane	ug/kg				<6.3			
Chloromethane	ug/kg				<13			
Dibromochloromethane	ug/kg				<6.3			
Methylene Chloride	ug/kg				<6.3			
Bromoform	ug/kg				<6.3			
Chloroform	ug/kg				<6.3			
Methyl Isobutyl Ketone	ug/kg				<6.3			
1,2-Dichloropropane	ug/kg				<6.3			
1,3-Dichloropropene	ug/kg				<6.3			
Styrene	ug/kg				<6.3			
Toluene	ug/kg				<6.3			
Toluene (screening)	ug/kg	<28	<28			<28	1200 E	
o-Xylene (screening)	ug/kg	<28	<28			<28	5200 E	
Xylenes	ug/kg				<6.3			
Xylenes,m- & p- (screening)	ug/kg	<41	<41			<42	11000 E	
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Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation

Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-08	XT-SB-08	XT-SB-08	XT-SB-09	XT-SB-09	XT-SB-09	XT-SB-09
Sample ID	1995599	1995600	1995601	1995602	1995603	1995604	1995604	1995604
Sample Date	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001
Sample Time	10:15	10:20	10:20	10:55	11:00	11:05	11:05	11:05
Sample Depth	8' - 10'	10' - 12'	10' - 12'	0' - 2'	2' - 4'	4' - 6'	4' - 6'	4' - 6'
Laboratory	STLC	LEA	LEA	LEA	LEA	LEA	LEA	STL-
Lab. Number	A1E050157012	35052-0119	35052-0120	35052-0121	00225-2183	00225-2182	00225-2182	A1E050157017
Constituent	Units							
Date Organics Analyzed	-	05/17/2001	05/08/2001	05/08/2001	05/08/2001	05/08/2001	05/08/2001	05/08/2001
Date Physical Analyzed	-	05/17/2001						05/24/2001
Date Semi-volatile Organics Analyzed	-	05/19/2001						
Hexachlorobenzene	ug/kg	<20000						
Hexachlorocyclopentadiene	ug/kg	<96000						
Extract. Petroleum Hydrocarbons EPA 1664	mg/kg							<12.5
Total Solids	%	83.7						
Acenaphthylene	ug/kg	<20000						
Acenaphthene	ug/kg	<20000						
2-Nitroaniline	ug/kg	<96000						
3-Nitroaniline	ug/kg	<96000						
4-Chloroaniline	ug/kg	<20000						
4-Nitroaniline	ug/kg	<96000						
Anthracene	ug/kg	<20000						
Benzo(a)anthracene	ug/kg	<20000						
Benzo(b)fluoranthene	ug/kg	<20000						
Nitrobenzene	ug/kg	<20000						
3,3'-Dichlorobenzidene	ug/kg	<96000						
Benzo(a)pyrene	ug/kg	<20000						
Benzo(g,h,i)perylene	ug/kg	<20000						
Benzo(k)fluoranthene	ug/kg	<20000						
Hexachlorobutadiene	ug/kg	<20000						
Carbazole	ug/kg	<20000						
Chrysene	ug/kg	<20000						
Cresol,4,6-dinitro-o-	ug/kg	<96000						
Cresol,4-chloro-m-	ug/kg	<20000						
2-Methylphenol	ug/kg	<20000						
4-Methylphenol	ug/kg	<20000						



Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation

Loureiro Engineering Associates, Inc.

Location ID	XT-SB-08	XT-SB-08	XT-SB-08	XT-SB-09	XT-SB-09	XT-SB-09	XT-SB-09
Sample ID	1995599	1995600	1995601	1995602	1995603	1995604	1995604
Sample Date	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001
Sample Time	10:15	10:20	10:20	10:55	11:00	11:05	11:05
Sample Depth	8' - 10'	10' - 12'	10' - 12'	0' - 2'	2' - 4'	4' - 6'	4' - 6'
Laboratory	STLC	LEA	LEA	LEA	LEA	LEA	STL-
Lab. Number	A1E050157012	35052-0119	35052-0120	35052-0121	00225-2183	00225-2182	A1E050157017
Constituent	Units						
Dibenz(a,h)anthracene	ug/kg	<20000					
Dibenzofuran	ug/kg	<20000					
n-Nitrosodiphenylamine	ug/kg	<20000					
n-Nitrosodi-n-propylamine	ug/kg	<20000					
Hexachloroethane	ug/kg	<20000					
4-bromophenyl-phenylether	ug/kg	<20000					
4-Chlorophenyl-phenyl Ether	ug/kg	<20000					
bis(2-Chloroethyl)ether	ug/kg	<20000					
Fluoranthene	ug/kg	<20000					
Fluorene	ug/kg	<20000					
Indeno(1,2,3-cd)pyrene	ug/kg	<20000					
Isophorone	ug/kg	<20000					
Methane,bis(2-chloroethoxy)-	ug/kg	<20000					
Naphthalene	ug/kg	17000					
2-Chloronaphthalene	ug/kg	<20000					
2-Methylnaphthalene	ug/kg	43000					
Phenanthrene	ug/kg	<20000					
Phenol	ug/kg	<20000					
2,4,5-Trichlorophenol	ug/kg	<20000					
2,4,6-Trichlorophenol	ug/kg	<20000					
2,4-Dichlorophenol	ug/kg	<20000					
2,4-Dinitrophenol	ug/kg	<96000					
2-Chlorophenol	ug/kg	<20000					
2-Nitrophenol	ug/kg	<20000					
Phenol,4-nitro-	ug/kg	<96000					
Pentachlorophenol	ug/kg	<20000					
Butyl Benzyl Phthalate	ug/kg	<20000					
bis(2-ethyl hexyl)phthalate	ug/kg	<20000					

Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation



Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-08	XT-SB-08	XT-SB-08	XT-SB-09	XT-SB-09	XT-SB-09	XT-SB-09
Sample ID	1995599	1995600	1995601	1995602	1995603	1995604	1995604	1995604
Sample Date	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001
Sample Time	10:15	10:20	10:20	10:55	11:00	11:05	11:05	
Sample Depth	8' - 10'	10' - 12'	10' - 12'	0' - 2'	2' - 4'	4' - 6'	4' - 6'	
Laboratory	STLC	LEA	LEA	LEA	LEA	LEA	LEA	STL-
Lab. Number	A1E050157012	35052-0119	35052-0120	35052-0121	00225-2183	00225-2182	00225-2182	A1E050157017
Constituent	Units							
Di-n-butyl Phthalate	ug/kg	<20000						
Di-n-octyl Phthalate	ug/kg	<20000						
Diethyl Phthalate	ug/kg	<20000						
Dimethyl Phthalate	ug/kg	<20000						
Propane),2,2'-oxybis(2-chloro-	ug/kg	<20000						
Pyrene	ug/kg	<20000						
2,4-Dinitrotoluene	ug/kg	<20000						
2,6-Dinitrotoluene	ug/kg	<20000						
2,4-Dimethylphenol	ug/kg	<20000						
Acetone	ug/kg	<30000						
Benzene	ug/kg	<1500						
Benzene (screening)	ug/kg		<32	150	<29	<16	<14	
1,2,4-Trichlorobenzene	ug/kg	<20000						
1,2-Dichlorobenzene	ug/kg	<20000						
1,3-Dichlorobenzene	ug/kg	<20000						
1,4-Dichlorobenzene	ug/kg	<20000						
Chlorobenzene	ug/kg	<1500						
Ethylbenzene	ug/kg	13000						
Ethylbenzene (screening)	ug/kg		74	2500 E	<29	<32	<28	
2-Butanone(MEK)	ug/kg	<30000						
Carbon Disulfide	ug/kg	<1500						
Carbon Tetrachloride	ug/kg	<1500						
1,1,1-Trichloroethane	ug/kg	<1500						
1,1,1-Trichloroethane (screening)	ug/kg		<320	<600 R1	<290	<320	<280	
1,1,2,2-Tetrachloroethane	ug/kg	<1500						
1,1,2-Trichloroethane	ug/kg	<1500						
1,1-Dichloroethane	ug/kg	<1500						
1,2-Dichloroethane	ug/kg	<1500						



Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation

Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-08	XT-SB-08	XT-SB-08	XT-SB-09	XT-SB-09	XT-SB-09	XT-SB-09
Sample ID	1995599	1995600	1995601	1995602	1995603	1995604	1995604	1995604
Sample Date	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001
Sample Time	10:15	10:20	10:20	10:55	11:00	11:05	11:05	11:05
Sample Depth	8' - 10'	10' - 12'	10' - 12'	0' - 2'	2' - 4'	4' - 6'	4' - 6'	4' - 6'
Laboratory	STLC	LEA	LEA	LEA	LEA	LEA	STL-	
Lab. Number	A1E050157012	35052-0119	35052-0120	35052-0121	00225-2183	00225-2182		A1E050157017
Constituent	Units							
Chloroethane	ug/kg	<3000						
1,1-Dichloroethylene	ug/kg	<1500						
Vinyl Chloride	ug/kg	<3000						
cis-1,2-Dichloroethylene	ug/kg	<1500						
Tetrachloroethylene	ug/kg	<1500						
Tetrachloroethylene (screening)	ug/kg		<32	660	<29	<16	<14	
trans-1,2-Dichloroethylene	ug/kg	<1500						
Trichloroethylene	ug/kg	<1500						
Trichloroethylene (screening)	ug/kg		<32	230	<29	<32	<28	
Hexanone,2-	ug/kg	<15000						
Bromomethane	ug/kg	<3000						
Bromodichloromethane	ug/kg	<1500						
Chloromethane	ug/kg	<3000						
Dibromochloromethane	ug/kg	<1500						
Methylene Chloride	ug/kg	<1500						
Bromoform	ug/kg	<1500						
Chloroform	ug/kg	<1500						
Methyl Isobutyl Ketone	ug/kg	<1500						
1,2-Dichloropropane	ug/kg	<1500						
1,3-Dichloropropene	ug/kg	<1500						
Styrene	ug/kg	<1500						
Toluene	ug/kg	<1500						
Toluene (screening)	ug/kg		<32	<60 R1	<29	<32	<28	
o-Xylene (screening)	ug/kg		<32	4200 E	<29	<32	<28	
Xylenes	ug/kg	42000						
Xylenes,m- & p- (screening)	ug/kg		83 E	4200 E	<43	<16	15 E	
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Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation

Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-09	XT-SB-09	XT-SB-09	XT-SB-09	XT-SB-09	XT-SB-09	XT-SB-10
Sample ID	1995604	1995605	1995606	1995606	1995606	1995607	1995608	
Sample Date	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	
Sample Time	11:05	11:10	11:15	11:15	11:15	11:20	12:10	
Sample Depth	4' - 6'	6' - 8'	8' - 10'	8' - 10'	8' - 10'	10' - 12'	0' - 2'	
Laboratory	STLC	LEA	LEA	STL-	STLC	LEA	LEA	
Lab. Number	A1E050157017	00225-2172	00225-2173	A1E050157019	A1E050157019	00225-2174	00225-2175	
Constituent	Units							
Date Organics Analyzed	-	05/17/2001	05/08/2001	05/08/2001		05/16/2001	05/08/2001	05/08/2001
Date Physical Analyzed	-	05/17/2001			05/24/2001	05/17/2001		
Date Semi-volatile Organics Analyzed	-	05/17/2001				05/17/2001		
Hexachlorobenzene	ug/kg	<350				<380		
Hexachlorocyclopentadiene	ug/kg	<1700				<1800		
Extract Petroleum Hydrocarbons EPA 1664	mg/kg				<12.5			
Total Solids	%	94.4				87.0		
Acenaphthylene	ug/kg	<350				<380		
Acenaphthene	ug/kg	<350				<380		
2-Nitroaniline	ug/kg	<1700				<1800		
3-Nitroaniline	ug/kg	<1700				<1800		
4-Chloroaniline	ug/kg	<350				<380		
4-Nitroaniline	ug/kg	<1700				<1800		
Anthracene	ug/kg	<350				<380		
Benzo(a)anthracene	ug/kg	<350				<380		
Benzo(b)fluoranthene	ug/kg	<350				<380		
Nitrobenzene	ug/kg	<350				<380		
3,3'-Dichlorobenzidene	ug/kg	<1700				<1800		
Benzo(a)pyrene	ug/kg	<350				<380		
Benzo(g,h,i)perylene	ug/kg	<350				<380		
Benzo(k)fluoranthene	ug/kg	<350				<380		
Hexachlorobutadiene	ug/kg	<350				<380		
Carbazole	ug/kg	<350				<380		
Chrysene	ug/kg	<350				<380		
Cresol,4,6-dinitro-o-	ug/kg	<1700				<1800		
Cresol,4-chloro-m-	ug/kg	<350				<380		
2-Methylphenol	ug/kg	<350				<380		
4-Methylphenol	ug/kg	<350				<380		



Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation

Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-09	XT-SB-09	XT-SB-09	XT-SB-09	XT-SB-09	XT-SB-09	XT-SB-10
	Sample ID	1995604	1995605	1995606	1995606	1995606	1995607	1995608
	Sample Date	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001
	Sample Time	11:05	11:10	11:15	11:15	11:15	11:20	12:10
	Sample Depth	4' - 6'	6' - 8'	8' - 10'	8' - 10'	8' - 10'	10' - 12'	0' - 2'
	Laboratory	STLC	LEA	LEA	STL-	STLC	LEA	LEA
	Lab. Number	A1E050157017	00225-2172	00225-2173	A1E050157019	A1E050157019	00225-2174	00225-2175
Constituent	Units							
Dibenz(a,h)anthracene	ug/kg	<350				<380		
Dibenzofuran	ug/kg	<350				<380		
n-Nitrosodiphenylamine	ug/kg	<350				<380		
n-Nitrosodi-n-propylamine	ug/kg	<350				<380		
Hexachloroethane	ug/kg	<350				<380		
4-bromophenyl-phenylether	ug/kg	<350				<380		
4-Chlorophenyl-phenyl Ether	ug/kg	<350				<380		
bis(2-Chloroethyl)ether	ug/kg	<350				<380		
Fluoranthene	ug/kg	<350				<380		
Fluorene	ug/kg	<350				<380		
Indeno(1,2,3-cd)pyrene	ug/kg	<350				<380		
Isophorone	ug/kg	<350				<380		
Methane,bis(2-chloroethoxy)-	ug/kg	<350				<380		
Naphthalene	ug/kg	<350				<380		
2-Chloronaphthalene	ug/kg	<350				<380		
2-Methylnaphthalene	ug/kg	<350				<380		
Phenanthrene	ug/kg	<350				<380		
Phenol	ug/kg	<350				<380		
2,4,5-Trichlorophenol	ug/kg	<350				<380		
2,4,6-Trichlorophenol	ug/kg	<350				<380		
2,4-Dichlorophenol	ug/kg	<350				<380		
2,4-Dinitrophenol	ug/kg	<1700				<1800		
2-Chlorophenol	ug/kg	<350				<380		
2-Nitrophenol	ug/kg	<350				<380		
Phenol,4-nitro-	ug/kg	<1700				<1800		
Pentachlorophenol	ug/kg	<350				<380		
Butyl Benzyl Phthalate	ug/kg	<350				<380		
bis(2-ethyl hexyl)phthalate	ug/kg	<350				<380		



Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation

Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-09	XT-SB-09	XT-SB-09	XT-SB-09	XT-SB-09	XT-SB-09	XT-SB-10
	Sample ID	1995604	1995605	1995606	1995606	1995606	1995607	1995608
	Sample Date	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001
	Sample Time	11:05	11:10	11:15	11:15	11:15	11:20	12:10
	Sample Depth	4' - 6'	6' - 8'	8' - 10'	8' - 10'	8' - 10'	10' - 12'	0' - 2'
	Laboratory	STLC	LEA	LEA	STL-	STLC	LEA	LEA
	Lab. Number	A1E050157017	00225-2172	00225-2173	A1E050157019	A1E050157019	00225-2174	00225-2175
Constituent	Units							
Di-n-butyl Phthalate	ug/kg	<350				<380		
Di-n-octyl Phthalate	ug/kg	<350				<380		
Diethyl Phthalate	ug/kg	<350				<380		
Dimethyl Phthalate	ug/kg	<350				<380		
Propane),2,2'-oxybis(2-chloro-	ug/kg	<350				<380		
Pyrene	ug/kg	<350				<380		
2,4-Dinitrotoluene	ug/kg	<350				<380		
2,6-Dinitrotoluene	ug/kg	<350				<380		
2,4-Dimethylphenol	ug/kg	<350				<380		
Acetone	ug/kg	<110				<110		
Benzene	ug/kg	<5.3				<5.7		
Benzene (screening)	ug/kg		<15	<16			<14	<14
1,2,4-Trichlorobenzene	ug/kg	<350				<380		
1,2-Dichlorobenzene	ug/kg	<350				<380		
1,3-Dichlorobenzene	ug/kg	<350				<380		
1,4-Dichlorobenzene	ug/kg	<350				<380		
Chlorobenzene	ug/kg	<5.3				<5.7		
Ethylbenzene	ug/kg	<5.3				<5.7		
Ethylbenzene (screening)	ug/kg		<31	<33			<29	<28
2-Butanone(MEK)	ug/kg	<110				<110		
Carbon Disulfide	ug/kg	<5.3				<5.7		
Carbon Tetrachloride	ug/kg	<5.3				<5.7		
1,1,1-Trichloroethane	ug/kg	<5.3				<5.7		
1,1,1-Trichloroethane (screening)	ug/kg		<310	<330			<290	<280
1,1,2,2-Tetrachloroethane	ug/kg	<5.3				<5.7		
1,1,2-Trichloroethane	ug/kg	<5.3				<5.7		
1,1-Dichloroethane	ug/kg	<5.3				<5.7		
1,2-Dichloroethane	ug/kg	<5.3				<5.7		



Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation

Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-09	XT-SB-09	XT-SB-09	XT-SB-09	XT-SB-09	XT-SB-09	XT-SB-10
Sample ID	1995604	1995605	1995606	1995606	1995606	1995607	1995608	
Sample Date	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001
Sample Time	11:05	11:10	11:15	11:15	11:15	11:20	12:10	
Sample Depth	4' - 6'	6' - 8'	8' - 10'	8' - 10'	8' - 10'	10' - 12'	0' - 2'	
Laboratory	STLC	LEA	LEA	STL-	STLC	LEA	LEA	
Lab. Number	A1E050157017	00225-2172	00225-2173	00225-2173	A1E050157019	A1E050157019	00225-2174	00225-2175
Constituent	Units							
Chloroethane	ug/kg	<11				<11		
1,1-Dichloroethylene	ug/kg	<5.3				<5.7		
Vinyl Chloride	ug/kg	<11				<11		
cis-1,2-Dichloroethylene	ug/kg	<5.3				<5.7		
Tetrachloroethylene	ug/kg	<5.3				<5.7		
Tetrachloroethylene (screening)	ug/kg		<15	<16			<14	<14
trans-1,2-Dichloroethylene	ug/kg	<5.3				<5.7		
Trichloroethylene	ug/kg	<5.3				<5.7		
Trichloroethylene (screening)	ug/kg		<31	<33			<29	<28
Hexanone,2-	ug/kg	<53				<57		
Bromomethane	ug/kg	<11				<11		
Bromodichloromethane	ug/kg	<5.3				<5.7		
Chloromethane	ug/kg	<11				<11		
Dibromochloromethane	ug/kg	<5.3				<5.7		
Methylene Chloride	ug/kg	<5.3				<5.7		
Bromoform	ug/kg	<5.3				<5.7		
Chloroform	ug/kg	<5.3				<5.7		
Methyl Isobutyl Ketone	ug/kg	<5.3				<5.7		
1,2-Dichloropropane	ug/kg	<5.3				<5.7		
1,3-Dichloropropene	ug/kg	<5.3				<5.7		
Styrene	ug/kg	<5.3				<5.7		
Toluene	ug/kg	<5.3				<5.7		
Toluene (screening)	ug/kg		<31	<33			<29	<28
o-Xylene (screening)	ug/kg		<31	<33			<29	<28
Xylenes	ug/kg	<5.3				<5.7		
Xylenes,m- & p- (screening)	ug/kg		<15	<16			<14	<14
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Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation

Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-10	XT-SB-10	XT-SB-10	XT-SB-10	XT-SB-10	XT-SB-10	XT-SB-10
Sample ID	1995609	1995610	1995610	1995610	1995611	1995611	1995611	1995611
Sample Date	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001
Sample Time	12:15	12:20	12:20	12:20	12:30	12:30	12:30	12:30
Sample Depth	2' - 4'	4' - 6'	4' - 6'	4' - 6'	6' - 8'	6' - 8'	6' - 8'	6' - 8'
Laboratory	LEA	LEA	STL-	STLC	LEA	STL-	STLC	
Lab. Number	00225-2176	00225-2177	A1E050157023	A1E050157023	00225-2178	A1E050157024	A1E050157024	
Constituent	Units							
Date Organics Analyzed	-	05/08/2001	05/08/2001		05/16/2001	05/08/2001		05/16/2001
Date Physical Analyzed	-			05/24/2001	05/17/2001		05/24/2001	05/17/2001
Date Semi-volatile Organics Analyzed	-				05/17/2001			05/17/2001
Hexachlorobenzene	ug/kg				<430			<440
Hexachlorocyclopentadiene	ug/kg				<2100			<2200
Extract. Petroleum Hydrocarbons EPA 1664	mg/kg			<12.5			<12.5	
Total Solids	%				76.7			74.4
Acenaphthylene	ug/kg				<430			<440
Acenaphthene	ug/kg				<430			<440
2-Nitroaniline	ug/kg				<2100			<2200
3-Nitroaniline	ug/kg				<2100			<2200
4-Chloroaniline	ug/kg				<430			<440
4-Nitroaniline	ug/kg				<2100			<2200
Anthracene	ug/kg				<430			<440
Benzo(a)anthracene	ug/kg				<430			<440
Benzo(b)fluoranthene	ug/kg				<430			<440
Nitrobenzene	ug/kg				<430			<440
3,3'-Dichlorobenzidine	ug/kg				<2100			<2200
Benzo(a)pyrene	ug/kg				<430			<440
Benzo(g,h,i)perylene	ug/kg				<430			<440
Benzo(k)fluoranthene	ug/kg				<430			<440
Hexachlorobutadiene	ug/kg				<430			<440
Carbazole	ug/kg				<430			<440
Chrysene	ug/kg				<430			<440
Cresol,4,6-dinitro-o-	ug/kg				<2100			<2200
Cresol,4-chloro-m-	ug/kg				<430			<440
2-Methylphenol	ug/kg				<430			<440
4-Methylphenol	ug/kg				<430			<440

Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation



Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-10	XT-SB-10	XT-SB-10	XT-SB-10	XT-SB-10	XT-SB-10	XT-SB-10
Sample ID	1995609	1995610	1995610	1995610	1995611	1995611	1995611	1995611
Sample Date	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001
Sample Time	12:15	12:20	12:20	12:20	12:30	12:30	12:30	12:30
Sample Depth	2' - 4'	4' - 6'	4' - 6'	4' - 6'	6' - 8'	6' - 8'	6' - 8'	6' - 8'
Laboratory	LEA	LEA	STL-	STLC	LEA	STL-	STLC	
Lab. Number	00225-2176	00225-2177	A1E050157023	A1E050157023	00225-2178	A1E050157024	A1E050157024	
Constituent	Units							
Dibenz(a,h)anthracene	ug/kg			<430				<440
Dibenzofuran	ug/kg			<430				<440
n-Nitrosodiphenylamine	ug/kg			<430				<440
n-Nitrosodi-n-propylamine	ug/kg			<430				<440
Hexachloroethane	ug/kg			<430				<440
4-bromophenyl-phenylether	ug/kg			<430				<440
4-Chlorophenyl-phenyl Ether	ug/kg			<430				<440
bis(2-Chloroethyl)ether	ug/kg			<430				<440
Fluoranthene	ug/kg			<430				<440
Fluorene	ug/kg			<430				<440
Indeno(1,2,3-cd)pyrene	ug/kg			<430				<440
Isophorone	ug/kg			<430				<440
Methane,bis(2-chloroethoxy)-	ug/kg			<430				<440
Naphthalene	ug/kg			<430				<440
2-Chloronaphthalene	ug/kg			<430				<440
2-Methylnaphthalene	ug/kg			<430				<440
Phenanthrene	ug/kg			<430				<440
Phenol	ug/kg			<430				<440
2,4,5-Trichlorophenol	ug/kg			<430				<440
2,4,6-Trichlorophenol	ug/kg			<430				<440
2,4-Dichlorophenol	ug/kg			<430				<440
2,4-Dinitrophenol	ug/kg			<2100				<2200
2-Chlorophenol	ug/kg			<430				<440
2-Nitrophenol	ug/kg			<430				<440
Phenol,4-nitro-	ug/kg			<2100				<2200
Pentachlorophenol	ug/kg			<430				<440
Butyl Benzyl Phthalate	ug/kg			<430				<440
bis(2-ethyl hexyl)phthalate	ug/kg			<430				<440



Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation

Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-10	XT-SB-10	XT-SB-10	XT-SB-10	XT-SB-10	XT-SB-10	XT-SB-10
Sample ID	1995609	1995610	1995610	1995610	1995611	1995611	1995611	
Sample Date	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001
Sample Time	12:15	12:20	12:20	12:20	12:30	12:30	12:30	
Sample Depth	2' - 4'	4' - 6'	4' - 6'	4' - 6'	6' - 8'	6' - 8'	6' - 8'	
Laboratory	LEA	LEA	STL-	STLC	LEA	STL-	STLC	
Lab. Number	00225-2176	00225-2177	A1E050157023	A1E050157023	00225-2178	A1E050157024	A1E050157024	
Constituent	Units							
Di-n-butyl Phthalate	ug/kg			<430				<440
Di-n-octyl Phthalate	ug/kg			<430				<440
Diethyl Phthalate	ug/kg			<430				<440
Dimethyl Phthalate	ug/kg			<430				<440
Propane),2,2'-oxybis(2-chloro-	ug/kg			<430				<440
Pyrene	ug/kg			<430				<440
2,4-Dinitrotoluene	ug/kg			<430				<440
2,6-Dinitrotoluene	ug/kg			<430				<440
2,4-Dimethylphenol	ug/kg			<430				<440
Acetone	ug/kg			<130				<130
Benzene	ug/kg			<6.5				<6.7
Benzene (screening)	ug/kg	<15	<15			<14		
1,2,4-Trichlorobenzene	ug/kg			<430				<440
1,2-Dichlorobenzene	ug/kg			<430				<440
1,3-Dichlorobenzene	ug/kg			<430				<440
1,4-Dichlorobenzene	ug/kg			<430				<440
Chlorobenzene	ug/kg			<6.5				<6.7
Ethylbenzene	ug/kg			<6.5				<6.7
Ethylbenzene (screening)	ug/kg	480 E	<30			<28		
2-Butanone(MEK)	ug/kg			<130				<130
Carbon Disulfide	ug/kg			<6.5				<6.7
Carbon Tetrachloride	ug/kg			<6.5				<6.7
1,1,1-Trichloroethane	ug/kg			<6.5				<6.7
1,1,1-Trichloroethane (screening)	ug/kg	<300	<300			<280		
1,1,2,2-Tetrachloroethane	ug/kg			<6.5				<6.7
1,1,2-Trichloroethane	ug/kg			<6.5				<6.7
1,1-Dichloroethane	ug/kg			<6.5				<6.7
1,2-Dichloroethane	ug/kg			<6.5				<6.7



Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation

Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-10	XT-SB-10	XT-SB-10	XT-SB-10	XT-SB-10	XT-SB-10	XT-SB-10
Sample ID	1995609	1995610	1995610	1995610	1995611	1995611	1995611	1995611
Sample Date	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001	05/04/2001
Sample Time	12:15	12:20	12:20	12:20	12:30	12:30	12:30	12:30
Sample Depth	2' - 4'	4' - 6'	4' - 6'	4' - 6'	6' - 8'	6' - 8'	6' - 8'	6' - 8'
Laboratory	LEA	LEA	STL-	STLC	LEA	STL-	STLC	
Lab. Number	00225-2176	00225-2177	A1E050157023	A1E050157023	00225-2178	A1E050157024	A1E050157024	
Constituent	Units							
Chloroethane	ug/kg			<13				<13
1,1-Dichloroethylene	ug/kg			<6.5				<6.7
Vinyl Chloride	ug/kg			<13				<13
cis-1,2-Dichloroethylene	ug/kg			<6.5				<6.7
Tetrachloroethylene	ug/kg			<6.5				<6.7
Tetrachloroethylene (screening)	ug/kg	380	<15			<14		
trans-1,2-Dichloroethylene	ug/kg			<6.5				<6.7
Trichloroethylene	ug/kg			<6.5				<6.7
Trichloroethylene (screening)	ug/kg	<30	<30			<28		
Hexane,2-	ug/kg			<65				<67
Bromomethane	ug/kg			<13				<13
Bromodichloromethane	ug/kg			<6.5				<6.7
Chloromethane	ug/kg			<13				<13
Dibromochloromethane	ug/kg			<6.5				<6.7
Methylene Chloride	ug/kg			<6.5				<6.7
Bromoform	ug/kg			<6.5				<6.7
Chloroform	ug/kg			<6.5				<6.7
Methyl Isobutyl Ketone	ug/kg			<6.5				<6.7
1,2-Dichloropropane	ug/kg			<6.5				<6.7
1,3-Dichloropropene	ug/kg			<6.5				<6.7
Styrene	ug/kg			<6.5				<6.7
Toluene	ug/kg			<6.5				<6.7
Toluene (screening)	ug/kg	370	<30			<28		
o-Xylene (screening)	ug/kg	470	<30			<28		
Xylenes	ug/kg			<6.5				<6.7
Xylenes,m- & p- (screening)	ug/kg	<15	<15			<14		
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Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation

Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-10	XT-SB-10	XT-SB-10				
Sample ID	1995612	1995613	1995614					
Sample Date	05/04/2001	05/04/2001	05/04/2001					
Sample Time	12:35	12:40	12:40					
Sample Depth	8' - 10'	10' - 12'	10' - 12'					
Laboratory	LEA	LEA	LEA					
Lab. Number	00225-2179	00225-2180	00225-2181					
Constituent	Units							
Date Organics Analyzed	-	05/08/2001	05/08/2001	05/08/2001				
Date Physical Analyzed	-							
Date Semi-volatile Organics Analyzed	-							
Hexachlorobenzene	ug/kg							
Hexachlorocyclopentadiene	ug/kg							
Extract. Petroleum Hydrocarbons EPA 1664	mg/kg							
Total Solids	%							
Acenaphthylene	ug/kg							
Acenaphthene	ug/kg							
2-Nitroaniline	ug/kg							
3-Nitroaniline	ug/kg							
4-Chloroaniline	ug/kg							
4-Nitroaniline	ug/kg							
Anthracene	ug/kg							
Benzo(a)anthracene	ug/kg							
Benzo(b)fluoranthene	ug/kg							
Nitrobenzene	ug/kg							
3,3'-Dichlorobenzidene	ug/kg							
Benzo(a)pyrene	ug/kg							
Benzo(g,h,i)perylene	ug/kg							
Benzo(k)fluoranthene	ug/kg							
Hexachlorobutadiene	ug/kg							
Carbazole	ug/kg							
Chrysene	ug/kg							
Cresol,4,6-dinitro-o-	ug/kg							
Cresol,4-chloro-m-	ug/kg							
2-Methylphenol	ug/kg							
4-Methylphenol	ug/kg							



Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation

Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-10	XT-SB-10	XT-SB-10						
	Sample ID	1995612	1995613	1995614						
	Sample Date	05/04/2001	05/04/2001	05/04/2001						
	Sample Time	12:35	12:40	12:40						
	Sample Depth	8' - 10'	10' - 12'	10' - 12'						
	Laboratory	LEA	LEA	LEA						
	Lab. Number	00225-2179	00225-2180	00225-2181						
Constituent	Units									
Dibenz(a,h)anthracene	ug/kg									
Dibenzofuran	ug/kg									
n-Nitrosodiphenylamine	ug/kg									
n-Nitrosodi-n-propylamine	ug/kg									
Hexachloroethane	ug/kg									
4-bromophenyl-phenylether	ug/kg									
4-Chlorophenyl-phenyl Ether	ug/kg									
bis(2-Chloroethyl)ether	ug/kg									
Fluoranthene	ug/kg									
Fluorene	ug/kg									
Indeno(1,2,3-cd)pyrene	ug/kg									
Isophorone	ug/kg									
Methane,bis(2-chloroethoxy)-	ug/kg									
Naphthalene	ug/kg									
2-Chloronaphthalene	ug/kg									
2-Methylnaphthalene	ug/kg									
Phenanthrene	ug/kg									
Phenol	ug/kg									
2,4,5-Trichlorophenol	ug/kg									
2,4,6-Trichlorophenol	ug/kg									
2,4-Dichlorophenol	ug/kg									
2,4-Dinitrophenol	ug/kg									
2-Chlorophenol	ug/kg									
2-Nitrophenol	ug/kg									
Phenol,4-nitro-	ug/kg									
Pentachlorophenol	ug/kg									
Butyl Benzyl Phthalate	ug/kg									
bis(2-ethyl hexyl)phthalate	ug/kg									



Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation

Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-10	XT-SB-10	XT-SB-10					
	Sample ID	1995612	1995613	1995614					
	Sample Date	05/04/2001	05/04/2001	05/04/2001					
	Sample Time	12:35	12:40	12:40					
	Sample Depth	8' - 10'	10' - 12'	10' - 12'					
	Laboratory	LEA	LEA	LEA					
	Lab. Number	00225-2179	00225-2180	00225-2181					
Constituent	Units								
Di-n-butyl Phthalate	ug/kg								
Di-n-octyl Phthalate	ug/kg								
Diethyl Phthalate	ug/kg								
Dimethyl Phthalate	ug/kg								
Propane),2,2'-oxybis(2-chloro-	ug/kg								
Pyrene	ug/kg								
2,4-Dinitrotoluene	ug/kg								
2,6-Dinitrotoluene	ug/kg								
2,4-Dimethylphenol	ug/kg								
Acetone	ug/kg								
Benzene	ug/kg								
Benzene (screening)	ug/kg	<14	<16	<16					
1,2,4-Trichlorobenzene	ug/kg								
1,2-Dichlorobenzene	ug/kg								
1,3-Dichlorobenzene	ug/kg								
1,4-Dichlorobenzene	ug/kg								
Chlorobenzene	ug/kg								
Ethylbenzene	ug/kg								
Ethylbenzene (screening)	ug/kg	220	<32	<32					
2-Butanone(MEK)	ug/kg								
Carbon Disulfide	ug/kg								
Carbon Tetrachloride	ug/kg								
1,1,1-Trichloroethane	ug/kg								
1,1,1-Trichloroethane (screening)	ug/kg	<290	<320	<320					
1,1,2,2-Tetrachloroethane	ug/kg								
1,1,2-Trichloroethane	ug/kg								
1,1-Dichloroethane	ug/kg								
1,2-Dichloroethane	ug/kg								



Table 3
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation

Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-10	XT-SB-10	XT-SB-10				
Sample ID	1995612	1995613	1995614					
Sample Date	05/04/2001	05/04/2001	05/04/2001					
Sample Time	12:35	12:40	12:40					
Sample Depth	8' - 10'	10' - 12'	10' - 12'					
Laboratory	LEA	LEA	LEA					
Lab. Number	00225-2179	00225-2180	00225-2181					
Constituent	Units							
Chloroethane	ug/kg							
1,1-Dichloroethylene	ug/kg							
Vinyl Chloride	ug/kg							
cis-1,2-Dichloroethylene	ug/kg							
Tetrachloroethylene	ug/kg							
Tetrachloroethylene (screening)	ug/kg	34	56	<16				
trans-1,2-Dichloroethylene	ug/kg							
Trichloroethylene	ug/kg							
Trichloroethylene (screening)	ug/kg	<29	<32	<32				
Hexanone,2-	ug/kg							
Bromomethane	ug/kg							
Bromodichloromethane	ug/kg							
Chloromethane	ug/kg							
Dibromochloromethane	ug/kg							
Methylene Chloride	ug/kg							
Bromoform	ug/kg							
Chloroform	ug/kg							
Methyl Isobutyl Ketone	ug/kg							
1,2-Dichloropropane	ug/kg							
1,3-Dichloropropene	ug/kg							
Styrene	ug/kg							
Toluene	ug/kg							
Toluene (screening)	ug/kg	<29	<32	<32				
o-Xylene (screening)	ug/kg	180	<32	<32				
Xylenes	ug/kg							
Xylenes,m- & p- (screening)	ug/kg	410	21 E	34 E				
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Table 4
SUMMARY OF ANALYTICAL RESULTS (DETECTS)
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation



Loureiro Engineering Associates, Inc.

Table 5
SUMMARY OF ANALYTICAL RESULTS



Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-04	XT-SB-08				
	Sample ID	1995650	1995649				
	Sample Date	05/16/2001	05/16/2001				
	Sample Time	11:35	09:30				
	Sample Depth	7' - 12'	7' - 12'				
	Laboratory	STLC	STLC				
	Lab. Number	A1E170190027	A1E170190026				
Constituent	Units						
Date Organics Analyzed	-	05/21/2001	05/21/2001				
Date Semi-volatile Organics Analyzed	-	05/19/2001	05/20/2001				
Hexachlorobenzene	ug/l	<10	<100				
Hexachlorocyclopentadiene	ug/l	<50	<500				
Acenaphthylene	ug/l	<10	<100				
Acenaphthene	ug/l	<10	<100				
2-Nitroaniline	ug/l	<50	<500				
3-Nitroaniline	ug/l	<50	<500				
4-Chloroaniline	ug/l	<10	<100				
4-Nitroaniline	ug/l	<50	<500				
Anthracene	ug/l	<10	<100				
Benzo(a)anthracene	ug/l	<10	<100				
Benzo(b)fluoranthene	ug/l	<10	<100				
Nitrobenzene	ug/l	<10	<100				
3,3'-Dichlorobenzidene	ug/l	<50	<500				
Benzo(a)pyrene	ug/l	<10	<100				
Benzo(g,h,i)perylene	ug/l	<10	<100				
Benzo(k)fluoranthene	ug/l	<10	<100				
Hexachlorobutadiene	ug/l	<10	<100				
Carbazole	ug/l	<10	<100				
Chrysene	ug/l	<10	<100				
Cresol,4,6-dinitro-o-	ug/l	<50	<500				
Cresol,4-chloro-m-	ug/l	<10	<100				
2-Methylphenol	ug/l	<10	<100				
4-Methylphenol	ug/l	<10	<100				
Dibenz(a,h)anthracene	ug/l	<10	<100				
Dibenzofuran	ug/l	<10	<100				
n-Nitrosodiphenylamine	ug/l	<10	<100				



Table 5
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation

Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-04	XT-SB-08						
Constituent	Units								
n-Nitrosodi-n-propylamine	ug/l	<10	<100						
Hexachloroethane	ug/l	<10	<100						
4-bromophenyl-phenylether	ug/l	<10	<100						
4-Chlorophenyl-phenyl Ether	ug/l	<10	<100						
bis(2-Chloroethyl)ether	ug/l	<10	<100						
Fluoranthene	ug/l	<10	<100						
Fluorene	ug/l	<10	<100						
Indeno(1,2,3-cd)pyrene	ug/l	<10	<100						
Isophorone	ug/l	<10	<100						
Methane,bis(2-chloroethoxy)-	ug/l	<10	<100						
Naphthalene	ug/l	<10	260						
2-Choronaphthalene	ug/l	<10	<100						
2-Methylnaphthalene	ug/l	<10	240						
Phenanthrene	ug/l	<10	<100						
Phenol	ug/l	<10	<100						
2,4,5-Trichlorophenol	ug/l	<10	<100						
2,4,6-Trichlorophenol	ug/l	<10	<100						
2,4-Dichlorophenol	ug/l	<10	<100						
2,4-Dinitrophenol	ug/l	<50	<500						
2-Chlorophenol	ug/l	<10	<100						
2-Nitrophenol	ug/l	<10	<100						
Phenol,p-nitro-	ug/l	<50	<500						
Pentachlorophenol	ug/l	<10	<100						
Butyl Benzyl Phthalate	ug/l	<10	<100						
bis(2-ethyl hexyl)phthalate	ug/l	<10	<100						
Di-n-butyl Phthalate	ug/l	<10	<100						
Di-n-octyl Phthalate	ug/l	<10	<100						
Diethyl Phthalate	ug/l	<10	<100						



Table 5
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation

Loureiro Engineering Associates, Inc.

	Location ID	XT-SB-04	XT-SB-08						
Constituent	Units								
Dimethyl Phthalate	ug/l	<10	<100						
Propane),2,2'-oxybis(2-chloro-	ug/l	<10	<100						
Pyrene	ug/l	<10	<100						
2,4-Dinitrotoluene	ug/l	<10	<100						
2,6-Dinitrotoluene	ug/l	<10	<100						
2,4-Dimethylphenol	ug/l	<10	<100						
Acetone	ug/l	<100	<1200						
Benzene	ug/l	<1.0	19						
1,2,4-Trichlorobenzene	ug/l	<10	<100						
1,2-Dichlorobenzene	ug/l	<10	<100						
1,3-Dichlorobenzene	ug/l	<10	<100						
1,4-Dichlorobenzene	ug/l	<10	<100						
Chlorobenzene	ug/l	<5.0	<62						
Ethylbenzene	ug/l	<5.0	150						
2-Butanone(MEK)	ug/l	<100	<1200						
Carbon Disulfide	ug/l	<5.0	<62						
Carbon Tetrachloride	ug/l	<5.0	<62						
1,1,1-Trichloroethane	ug/l	<5.0	<62						
1,1,2,2-Tetrachloroethane	ug/l	<0.50	<6.2						
1,1,2-Trichloroethane	ug/l	<5.0	<62						
1,1-Dichloroethane	ug/l	<5.0	<62						
1,2-Dichloroethane	ug/l	<1.0	<12						
Chloroethane	ug/l	<10	<120						
1,1-Dichloroethylene	ug/l	<1.0	<12						
Vinyl Chloride	ug/l	<2.0	<25						
cis-1,2-Dichloroethylene	ug/l	<5.0	<62						
Tetrachloroethylene	ug/l	<5.0	<62						
trans-1,2-Dichloroethylene	ug/l	<5.0	<62						

Table 5
SUMMARY OF ANALYTICAL RESULTS
P&W East Hartford: Pipeline Leak Testing/Contamination Investigation



Loureiro Engineering Associates, Inc.

DRAWINGS

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Image Target Sheet**

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Facility Name: PRATT & WHITNEY (MAIN STREET)

Phase Classification: R-5

**Document Title: VOLUNTARY CORRECTIVE ACTION
PROGRAM PROGRESS REPORT FOR THIRD QUARTER
2001 (10/12/01 TRANSMITTAL LETTER ATTACHED)
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Date of Document: 10/01/2001

Document Type: PROGRESS REPORT

Purpose of Target Sheet:

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**DRAWING 2: WASTEWATER PIPELINES - COLT ST. TO
MAIN PLANT**

APPENDIX A



PREPARED FOR:

Loureiro Engineering
100 Northwest Drive
Plainville, CT 06062

Tracer Tight© Test
of
16,800 Feet of Jet Fuel Pipeline
8,400 Feet of Wastewater Pipeline
Pratt & Whitney
East Hartford, Connecticut

Submitted By:

Tracer Research Corporation
Tracer Research Corporation

Job #: 36266-000.P



TABLE OF CONTENTS

INTRODUCTION	1
CONCEPT OF OPERATION AND IMPLEMENTATION	1
CRITERIA FOR DETERMINATION OF LEAKAGE	1
SUMMARY OF FINDINGS	2
CERTIFICATION	3
APPENDIX A - ANALYTICAL DATA.....	A-1



INTRODUCTION

Tracer Research Corporation performed Tracer Tight © leak testing on approximately 16,800 feet of underground jet fuel pipeline and 8,400 feet of wastewater pipeline located at the Pratt & Whitney facility in East Hartford, Connecticut. Testing was conducted starting on December 7, 2000 and completed on February 8, 2001. Sample probes were previously installed by Tracer trained Loureiro personnel. Jet fuel pipeline #1 was inoculated with Tracer A. Jet fuel pipeline #2 was inoculated with Tracer W. Jet fuel pipeline #3 was inoculated with Tracer C. Jet fuel pipeline #4 was inoculated with Tracer D. The 6" DOW wastewater pipeline was inoculated with Tracer D and the 18" DWW wastewater pipeline with Tracer C. Jet fuel pipeline #4 had a suspected blockage in the line and was inoculated by Tracer personnel from both ends. This pipeline's condition can not be verified due to the unknown location of the suspected blockage and its further need of investigation.

CONCEPT OF OPERATION AND IMPLEMENTATION

The Tracer Tight© Pipeline Leak Detection System (LDS) is a unique method of underground precision leak detection whereby a volatile chemical tracer is added to the product storage and delivery system. If a leak is present in the product system, tracer-laden product leaks into the soil where the tracer evaporates out of the product and into the vapor in the surrounding soil (soil gas). Soil gas samples are collected from sampling probes along the pipeline and analyzed for the chemical tracer in an on site laboratory or in the Tracer Research laboratory in Tucson, Arizona. The presence of tracer in a sampling probe indicates a proximal leak, which can be verified and pinpointed by collecting additional samples.

CRITERIA FOR DETERMINATION OF LEAKAGE

Determination of leakage is based on the criteria established is based on the criteria established in the Tracer Tight© third party evaluation, which meets the criteria set forth in NFPA 329 for a precision leak test. According to EPA standard test procedures for evaluating leak detection methods, this method is capable of detecting leaks of 0.05 gallons per hour with a Probability of Detection (PD) of 0.97 and Probability of False Alarm (PFA) of 0.029.

PASS: < 0.1µg/L

FAIL: > 0.1 µg/L



SUMMARY OF FINDINGS

The analytical results of this Tracer Tight© leak test are condensed in Appendix A. The data are presented by sampling location and analyte concentration. When a compound was not detected, the value is presented as a "less than number", e.g. <0.1 µg/l (micrograms per liter). The samples were analyzed for Tracer A, Tracer W, Tracer C, Tracer D and total volatile hydrocarbons (TVHC).

Two rounds of samples were collected and analyzed from all probes on the Jet fuel pipelines. Concentrations of Tracer W were detected in probes 3, 4, 320 and 321. The highest concentration being at probe location 3. One complete round of samples were taken along the wastewater pipelines. Additional rounds of samples were collected and analyzed from the 6" DOW wastewater pipeline to investigate initial suspect locations. These additional samples proved to have no Tracer present.

**TRACER TIGHT® LEAK DETECTION CERTIFICATION**Pratt & Whitney
East Hartford, CTDate: February 12, 2001
Job #: 36266-000.P

<u>PIPELINE</u>	<u>LENGTH (feet)</u>	<u>TRACER</u>	<u>PASS / FAIL</u>
1	4200	A	PASS
2	4200	W	FAIL
3	4200	C	PASS
4	4200	D	NOT VERIFIED
6" DOW	4200	D	PASS
18" DWW	4200	C	PASS

Tracer Research Corporation certifies that the piping listed in the above table has been tested by means of Tracer Tight®, which meets the criteria set forth in NFPA 329 for a precision leak test. According to EPA standard test procedures for evaluating leak detection methods, the Tracer Tight® method is capable of detecting leaks of 0.05 gallons per hour with a Probability of Detection (P_D) of 0.97 and a Probability of False Alarm (P_{FA}) of 0.029.

Submitted by:

Tracer Research Corporation

The following criteria are used for the classification of leakage. Leakage is based on the presence or absence of tracer.

PASS

Criteria:

< 0.1 µg/L

FAIL

Criteria:

> 0.1 µg/L



**APPENDIX A
ANALYTICAL DATA**

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/19/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
P_1	A	0.0000
P_1	W	0.0000
P_1	C	0.0000
P_1	D	0.0000
P_1	TVHC	0.0000
P_2	A	0.0000
P_2	W	0.0000
P_2	C	0.0000
P_2	D	0.0000
P_2	TVHC	0.0000
P_3	A	0.0000
P_3	W	1.4072
P_3	C	0.0000
P_3	D	0.0000
P_3	TVHC	0.0000
P_4	A	0.0000
P_4	W	4.7623
P_4	C	0.0000
P_4	D	0.0000
P_4	TVHC	0.0000
P_5	A	0.0000
P_5	W	0.0000
P_5	C	0.0000
P_5	D	0.0000
P_5	TVHC	0.0000
P_AIR001	A	0.0000
P_AIR001	W	0.0000
P_AIR001	C	0.0000
P_AIR001	D	0.0000
P_AIR001	TVHC	0.0000
P_7	A	0.0000
P_7	W	0.0000
P_7	C	0.0000
P_7	D	0.0000
P_7	TVHC	0.0000
P_8	A	0.0000
P_8	W	0.0000
P_8	C	0.0000
P_8	D	0.0000
P_8	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/19/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
P_9	A	0.0000
P_9	W	0.0000
P_9	C	0.0000
P_9	D	0.0000
P_9	TVHC	0.0000
P_AIR002	A	0.0000
P_AIR002	W	0.0000
P_AIR002	C	0.0000
P_AIR002	D	0.0000
P_AIR002	TVHC	0.0000
P_11	A	0.0000
P_11	W	0.0000
P_11	C	0.0000
P_11	D	0.0000
P_11	TVHC	0.0000
P_12	A	0.0000
P_12	W	0.0000
P_12	C	0.0000
P_12	D	0.0000
P_12	TVHC	0.0000
P_13	A	0.0000
P_13	W	0.0000
P_13	C	0.0000
P_13	D	0.0000
P_13	TVHC	0.0000
P_14	A	0.0000
P_14	W	0.0000
P_14	C	0.0000
P_14	D	0.0000
P_14	TVHC	0.0000
P_15	A	0.0000
P_15	W	0.0000
P_15	C	0.0000
P_15	D	0.0000
P_15	TVHC	0.0000
P_16	A	0.0000
P_16	W	0.0000
P_16	C	0.0000
P_16	D	0.0000
P_16	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/19/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
P_17	A	0.0000
P_17	W	0.0000
P_17	C	0.0000
P_17	D	0.0000
P_17	TVHC	0.0000
P_18	A	0.0000
P_18	W	0.0000
P_18	C	0.0000
P_18	D	0.0000
P_18	TVHC	0.0860
P_19	A	0.0000
P_19	W	0.0000
P_19	C	0.0000
P_19	D	0.0000
P_19	TVHC	0.0000
P_20	A	0.0000
P_20	W	0.0000
P_20	C	0.0000
P_20	D	0.0000
P_20	TVHC	0.0000
P_21	A	0.0000
P_21	W	0.0000
P_21	C	0.0000
P_21	D	0.0000
P_21	TVHC	0.0000
P_22	A	0.0000
P_22	W	0.0000
P_22	C	0.0000
P_22	D	0.0000
P_22	TVHC	0.0000
P_23	A	0.0000
P_23	W	0.0000
P_23	C	0.0000
P_23	D	0.0000
P_23	TVHC	0.0000
P_24	A	0.0000
P_24	W	0.0000
P_24	C	0.0000
P_24	D	0.0000
P_24	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/19/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
P_25	A	0.0000
P_25	W	0.0000
P_25	C	0.0000
P_25	D	0.0000
P_25	TVHC	0.0000
P_26	A	0.0000
P_26	W	0.0000
P_26	C	0.0000
P_26	D	0.0000
P_26	TVHC	0.0000
P_27	A	0.0000
P_27	W	0.0000
P_27	C	0.0000
P_27	D	0.0000
P_27	TVHC	0.0000
P_28	A	0.0000
P_28	W	0.0000
P_28	C	0.0000
P_28	D	0.0000
P_28	TVHC	0.0000
P_29	A	0.0000
P_29	W	0.0000
P_29	C	0.0000
P_29	D	0.0000
P_29	TVHC	0.0000
P_30	A	0.0000
P_30	W	0.0000
P_30	C	0.0000
P_30	D	0.0000
P_30	TVHC	0.0000
P_31	A	0.0000
P_31	W	0.0000
P_31	C	0.0000
P_31	D	0.0000
P_31	TVHC	0.0000
P_32	A	0.0000
P_32	W	0.0000
P_32	C	0.0000
P_32	D	0.0000
P_32	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)

TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/19/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
P_33	A	0.0000
P_33	W	0.0000
P_33	C	0.0000
P_33	D	0.0000
P_33	TVHC	0.0000
P_34	A	0.0000
P_34	W	0.0000
P_34	C	0.0000
P_34	D	0.0000
P_34	TVHC	0.0000
P_35	A	0.0000
P_35	W	0.0000
P_35	C	0.0000
P_35	D	0.0000
P_35	TVHC	0.0000
P_36	A	0.0000
P_36	W	0.0000
P_36	C	0.0000
P_36	D	0.0000
P_36	TVHC	0.0000
P_37	A	0.0000
P_37	W	0.0000
P_37	C	0.0000
P_37	D	0.0000
P_37	TVHC	0.0000
P_38	A	0.0000
P_38	W	0.0000
P_38	C	0.0000
P_38	D	0.0000
P_38	TVHC	0.0000
P_40	A	0.0000
P_40	W	0.0000
P_40	C	0.0000
P_40	D	0.0000
P_40	TVHC	0.0000
P_43	A	0.0000
P_43	W	0.0000
P_43	C	0.0000
P_43	D	0.0000
P_43	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/19/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
P_45	A	0.0000
P_45	W	0.0000
P_45	C	0.0000
P_45	D	0.0000
P_45	TVHC	0.0000
P_48	A	0.0000
P_48	W	0.0000
P_48	C	0.0000
P_48	D	0.0000
P_48	TVHC	0.0000
P_49	A	0.0000
P_49	W	0.0000
P_49	C	0.0000
P_49	D	0.0000
P_49	TVHC	0.0000
P_50	A	0.0000
P_50	W	0.0000
P_50	C	0.0000
P_50	D	0.0000
P_50	TVHC	0.0000
P_51	A	0.0000
P_51	W	0.0000
P_51	C	0.0000
P_51	D	0.0000
P_51	TVHC	0.0000
P_52	A	0.0000
P_52	W	0.0000
P_52	C	0.0000
P_52	D	0.0000
P_52	TVHC	0.0000
P_53	A	0.0000
P_53	W	0.0000
P_53	C	0.0000
P_53	D	0.0000
P_53	TVHC	0.0000
P_54	A	0.0000
P_54	W	0.0000
P_54	C	0.0000
P_54	D	0.0000
P_54	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/19/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
P_55	A	0.0000
P_55	W	0.0000
P_55	C	0.0000
P_55	D	0.0000
P_55	TVHC	0.0000
P_56	A	0.0000
P_56	W	0.0000
P_56	C	0.0000
P_56	D	0.0000
P_56	TVHC	0.0000
P_AIR003	A	0.0000
P_AIR003	W	0.0000
P_AIR003	C	0.0000
P_AIR003	D	0.0000
P_AIR003	TVHC	0.0000
P_58	A	0.0000
P_58	W	0.0000
P_58	C	0.0000
P_58	D	0.0000
P_58	TVHC	0.0000
P_59	A	0.0000
P_59	W	0.0000
P_59	C	0.0000
P_59	D	0.0000
P_59	TVHC	0.0000
P_AIR004	A	0.0000
P_AIR004	W	0.0000
P_AIR004	C	0.0000
P_AIR004	D	0.0000
P_AIR004	TVHC	0.0000
P_61	A	0.0000
P_61	W	0.0000
P_61	C	0.0000
P_61	D	0.0000
P_61	TVHC	0.0000
P_62	A	0.0000
P_62	W	0.0000
P_62	C	0.0000
P_62	D	0.0000
P_62	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)

TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/19/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
P_63	A	0.0000
P_63	W	0.0000
P_63	C	0.0000
P_63	D	0.0000
P_63	TVHC	0.0000
P_64	A	0.0000
P_64	W	0.0000
P_64	C	0.0000
P_64	D	0.0000
P_64	TVHC	0.0000
P_66	A	0.0000
P_66	W	0.0000
P_66	C	0.0000
P_66	D	0.0000
P_66	TVHC	0.0000
P_67	A	0.0000
P_67	W	0.0000
P_67	C	0.0000
P_67	D	0.0000
P_67	TVHC	0.0000
P_68	A	0.0000
P_68	W	0.0000
P_68	C	0.0000
P_68	D	0.0000
P_68	TVHC	0.0000
P_69	A	0.0000
P_69	W	0.0000
P_69	C	0.0000
P_69	D	0.0000
P_69	TVHC	0.0000
P_70	A	0.0000
P_70	W	0.0000
P_70	C	0.0000
P_70	D	0.0000
P_70	TVHC	0.0000
P_71	A	0.0000
P_71	W	0.0000
P_71	C	0.0000
P_71	D	0.0000
P_71	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/19/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
P_72	A	0.0000
P_72	W	0.0000
P_72	C	0.0000
P_72	D	0.0000
P_72	TVHC	0.0000
P_73	A	0.0000
P_73	W	0.0000
P_73	C	0.0000
P_73	D	0.0000
P_73	TVHC	0.0000
P_101	A	0.0000
P_101	W	0.0000
P_101	C	0.0000
P_101	D	0.0000
P_101	TVHC	0.0000
P_102	A	0.0000
P_102	W	0.0000
P_102	C	0.0000
P_102	D	0.0000
P_102	TVHC	0.0000
P_103	A	0.0000
P_103	W	0.0000
P_103	C	0.0000
P_103	D	0.0000
P_103	TVHC	0.0000
P_104	A	0.0000
P_104	W	0.0000
P_104	C	0.0000
P_104	D	0.0000
P_104	TVHC	0.0000
P_105	A	0.0000
P_105	W	0.0000
P_105	C	0.0000
P_105	D	0.0000
P_105	TVHC	0.0000
P_106	A	0.0000
P_106	W	0.0000
P_106	C	0.0000
P_106	D	0.0000
P_106	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/19/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
P_107	A	0.0000
P_107	W	0.0000
P_107	C	0.0000
P_107	D	0.0000
P_107	TVHC	0.0000
P_108	A	0.0000
P_108	W	0.0000
P_108	C	0.0000
P_108	D	0.0000
P_108	TVHC	0.0000
P_109	A	0.0000
P_109	W	0.0000
P_109	C	0.0000
P_109	D	0.0000
P_109	TVHC	0.0000
P_110	A	0.0000
P_110	W	0.0000
P_110	C	0.0000
P_110	D	0.0000
P_110	TVHC	0.0000
P_111	A	0.0000
P_111	W	0.0000
P_111	C	0.0000
P_111	D	0.0000
P_111	TVHC	0.0000
P_112	A	0.0000
P_112	W	0.0000
P_112	C	0.0000
P_112	D	0.0000
P_112	TVHC	0.0000
P_113	A	0.0000
P_113	W	0.0000
P_113	C	0.0000
P_113	D	0.0000
P_113	TVHC	0.0000
P_114	A	0.0000
P_114	W	0.0000
P_114	C	0.0000
P_114	D	0.0000
P_114	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/19/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
P_115	A	0.0000
P_115	W	0.0000
P_115	C	0.0000
P_115	D	0.0000
P_115	TVHC	0.0000
P_116	A	0.0000
P_116	W	0.0000
P_116	C	0.0000
P_116	D	0.0000
P_116	TVHC	0.0000
P_117	A	0.0000
P_117	W	0.0000
P_117	C	0.0000
P_117	D	0.0000
P_117	TVHC	0.0000
P_118	A	0.0000
P_118	W	0.0000
P_118	C	0.0000
P_118	D	0.0000
P_118	TVHC	0.0000
P_119	A	0.0000
P_119	W	0.0000
P_119	C	0.0000
P_119	D	0.0000
P_119	TVHC	0.0000
P_120	A	0.0000
P_120	W	0.0000
P_120	C	0.0000
P_120	D	0.0000
P_120	TVHC	0.0000
P_121	A	0.0000
P_121	W	0.0000
P_121	C	0.0000
P_121	D	0.0000
P_121	TVHC	0.0000
P_122	A	0.0000
P_122	W	0.0000
P_122	C	0.0000
P_122	D	0.0000
P_122	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/19/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
P_123	A	0.0000
P_123	W	0.0000
P_123	C	0.0000
P_123	D	0.0000
P_123	TVHC	0.0000
P_124	A	0.0000
P_124	W	0.0000
P_124	C	0.0000
P_124	D	0.0000
P_124	TVHC	0.0000
P_125	A	0.0000
P_125	W	0.0000
P_125	C	0.0000
P_125	D	0.0000
P_125	TVHC	0.0000
P_126	A	0.0000
P_126	W	0.0000
P_126	C	0.0000
P_126	D	0.0000
P_126	TVHC	0.0000
P_127	A	0.0000
P_127	W	0.0000
P_127	C	0.0000
P_127	D	0.0000
P_127	TVHC	0.0000
P_128	A	0.0000
P_128	W	0.0000
P_128	C	0.0000
P_128	D	0.0000
P_128	TVHC	0.0000
P_129	A	0.0000
P_129	W	0.0000
P_129	C	0.0000
P_129	D	0.0000
P_129	TVHC	0.0000
P_130	A	0.0000
P_130	W	0.0000
P_130	C	0.0000
P_130	D	0.0000
P_130	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/19/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
P_131	A	0.0000
P_131	W	0.0000
P_131	C	0.0000
P_131	D	0.0000
P_131	TVHC	0.0000
P_132	A	0.0000
P_132	W	0.0000
P_132	C	0.0000
P_132	D	0.0000
P_132	TVHC	0.0000
P_133	A	0.0000
P_133	W	0.0000
P_133	C	0.0000
P_133	D	0.0000
P_133	TVHC	0.0000
P_134	A	0.0000
P_134	W	0.0000
P_134	C	0.0000
P_134	D	0.0000
P_134	TVHC	0.0000
P_135	A	0.0000
P_135	W	0.0000
P_135	C	0.0000
P_135	D	0.0000
P_135	TVHC	0.0000
P_136	A	0.0000
P_136	W	0.0000
P_136	C	0.0000
P_136	D	0.0000
P_136	TVHC	0.0000
P_137	A	0.0000
P_137	W	0.0000
P_137	C	0.0000
P_137	D	0.0000
P_137	TVHC	0.0000
P_138	A	0.0000
P_138	W	0.0000
P_138	C	0.0000
P_138	D	0.0000
P_138	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)

TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/19/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
P_147	A	0.0000
P_147	W	0.0000
P_147	C	0.0000
P_147	D	0.0000
P_147	TVHC	0.0000
P_148	A	0.0000
P_148	W	0.0000
P_148	C	0.0000
P_148	D	0.0000
P_148	TVHC	0.0000
P_149	A	0.0000
P_149	W	0.0000
P_149	C	0.0000
P_149	D	0.0000
P_149	TVHC	0.0000
P_150	A	0.0000
P_150	W	0.0000
P_150	C	0.0000
P_150	D	0.0000
P_150	TVHC	0.0000
P_151	A	0.0000
P_151	W	0.0000
P_151	C	0.0000
P_151	D	0.0000
P_151	TVHC	0.0000
P_152	A	0.0000
P_152	W	0.0000
P_152	C	0.0000
P_152	D	0.0000
P_152	TVHC	0.0000
P_153	A	0.0000
P_153	W	0.0000
P_153	C	0.0000
P_153	D	0.0000
P_153	TVHC	0.0000
P_154	A	0.0000
P_154	W	0.0000
P_154	C	0.0000
P_154	D	0.0000
P_154	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/19/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
P_155	A	0.0000
P_155	W	0.0000
P_155	C	0.0000
P_155	D	0.0000
P_155	TVHC	0.0000
P_156	A	0.0000
P_156	W	0.0000
P_156	C	0.0000
P_156	D	0.0000
P_156	TVHC	0.0000
P_157	A	0.0000
P_157	W	0.0000
P_157	C	0.0000
P_157	D	0.0000
P_157	TVHC	0.0000
P_158	A	0.0000
P_158	W	0.0000
P_158	C	0.0000
P_158	D	0.0000
P_158	TVHC	0.0000
P_159	A	0.0000
P_159	W	0.0000
P_159	C	0.0000
P_159	D	0.0000
P_159	TVHC	0.0000
P_160	A	0.0000
P_160	W	0.0000
P_160	C	0.0000
P_160	D	0.0000
P_160	TVHC	0.0000
P_161	A	0.0000
P_161	W	0.0000
P_161	C	0.0000
P_161	D	0.0000
P_161	TVHC	0.0000
P_162	A	0.0000
P_162	W	0.0000
P_162	C	0.0000
P_162	D	0.0000
P_162	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/19/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
P_163	A	0.0000
P_163	W	0.0000
P_163	C	0.0000
P_163	D	0.0000
P_163	TVHC	0.0000
P_164	A	0.0000
P_164	W	0.0000
P_164	C	0.0000
P_164	D	0.0000
P_164	TVHC	0.0000
P_165	A	0.0000
P_165	W	0.0000
P_165	C	0.0000
P_165	D	0.0000
P_165	TVHC	0.0000
P_166	A	0.0000
P_166	W	0.0000
P_166	C	0.0000
P_166	D	0.0000
P_166	TVHC	0.0000
P_167	A	0.0000
P_167	W	0.0000
P_167	C	0.0000
P_167	D	0.0000
P_167	TVHC	0.0000
P_168	A	0.0000
P_168	W	0.0000
P_168	C	0.0000
P_168	D	0.0000
P_168	TVHC	0.0000
P_169	A	0.0000
P_169	W	0.0000
P_169	C	0.0000
P_169	D	0.0000
P_169	TVHC	0.0000
P_170	A	0.0000
P_170	W	0.0000
P_170	C	0.0000
P_170	D	0.0000
P_170	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)

TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deer Park Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/19/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
P_171	A	0.0000
P_171	W	0.0000
P_171	C	0.0000
P_171	D	0.0000
P_171	TVHC	0.0000
P_172	A	0.0000
P_172	W	0.0000
P_172	C	0.0000
P_172	D	0.0000
P_172	TVHC	0.0000
P_173	A	0.0000
P_173	W	0.0000
P_173	C	0.0000
P_173	D	0.0000
P_173	TVHC	0.0000
P_174	A	0.0000
P_174	W	0.0000
P_174	C	0.0000
P_174	D	0.0000
P_174	TVHC	0.0000
P_175	A	0.0000
P_175	W	0.0000
P_175	C	0.0000
P_175	D	0.0000
P_175	TVHC	0.0000
P_176	A	0.0000
P_176	W	0.0000
P_176	C	0.0000
P_176	D	0.0000
P_176	TVHC	0.0000
P_177	A	0.0000
P_177	W	0.0000
P_177	C	0.0000
P_177	D	0.0000
P_177	TVHC	0.0000
P_178	A	0.0000
P_178	W	0.0000
P_178	C	0.0000
P_178	D	0.0000
P_178	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/19/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
P_179	A	0.0000
P_179	W	0.0000
P_179	C	0.0000
P_179	D	0.0000
P_179	TVHC	0.0000
P_180	A	0.0000
P_180	W	0.0000
P_180	C	0.0000
P_180	D	0.0000
P_180	TVHC	0.0000
P_181	A	0.0000
P_181	W	0.0000
P_181	C	0.0000
P_181	D	0.0000
P_181	TVHC	0.0000
P_182	A	0.0000
P_182	W	0.0000
P_182	C	0.0000
P_182	D	0.0000
P_182	TVHC	0.0000
P_183	A	0.0000
P_183	W	0.0000
P_183	C	0.0000
P_183	D	0.0000
P_183	TVHC	0.0000
P_184	A	0.0000
P_184	W	0.0000
P_184	C	0.0000
P_184	D	0.0000
P_184	TVHC	0.0000
P_185	A	0.0000
P_185	W	0.0000
P_185	C	0.0000
P_185	D	0.0000
P_185	TVHC	0.0000
P_186	A	0.0000
P_186	W	0.0000
P_186	C	0.0000
P_186	D	0.0000
P_186	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)

TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/19/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
P_187	A	0.0000
P_187	W	0.0000
P_187	C	0.0000
P_187	D	0.0000
P_187	TVHC	0.0000
P_188	A	0.0000
P_188	W	0.0000
P_188	C	0.0000
P_188	D	0.0000
P_188	TVHC	0.0000
P_189	A	0.0000
P_189	W	0.0000
P_189	C	0.0000
P_189	D	0.0000
P_189	TVHC	0.0000
P_190	A	0.0000
P_190	W	0.0000
P_190	C	0.0000
P_190	D	0.0000
P_190	TVHC	0.0000
P_191	A	0.0000
P_191	W	0.0000
P_191	C	0.0000
P_191	D	0.0000
P_191	TVHC	0.0000
P_192	A	0.0000
P_192	W	0.0000
P_192	C	0.0000
P_192	D	0.0000
P_192	TVHC	0.0000
P_193	A	0.0000
P_193	W	0.0000
P_193	C	0.0000
P_193	D	0.0000
P_193	TVHC	0.0000
P_194	A	0.0000
P_194	W	0.0000
P_194	C	0.0000
P_194	D	0.0000
P_194	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/19/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
P_195	A	0.0000
P_195	W	0.0000
P_195	C	0.0000
P_195	D	0.0000
P_195	TVHC	0.0000
P_196	A	0.0000
P_196	W	0.0000
P_196	C	0.0000
P_196	D	0.0000
P_196	TVHC	0.0000
P_197	A	0.0000
P_197	W	0.0000
P_197	C	0.0000
P_197	D	0.0000
P_197	TVHC	0.0000
P_198	A	0.0000
P_198	W	0.0000
P_198	C	0.0000
P_198	D	0.0000
P_198	TVHC	0.0000
P_199	A	0.0000
P_199	W	0.0000
P_199	C	0.0000
P_199	D	0.0000
P_199	TVHC	0.0000
P_200	A	0.0000
P_200	W	0.0000
P_200	C	0.0000
P_200	D	0.0000
P_200	TVHC	0.0000
P_201	A	0.0000
P_201	W	0.0000
P_201	C	0.0000
P_201	D	0.0000
P_201	TVHC	0.0000
P_202	A	0.0000
P_202	W	0.0000
P_202	C	0.0000
P_202	D	0.0000
P_202	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/19/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
P_203	A	0.0000
P_203	W	0.0000
P_203	C	0.0000
P_203	D	0.0000
P_203	TVHC	0.0000
P_204	A	0.0000
P_204	W	0.0000
P_204	C	0.0000
P_204	D	0.0000
P_204	TVHC	0.0000
P_205	A	0.0000
P_205	W	0.0000
P_205	C	0.0000
P_205	D	0.0000
P_205	TVHC	0.0000
P_206	A	0.0000
P_206	W	0.0000
P_206	C	0.0000
P_206	D	0.0000
P_206	TVHC	0.0000
P_207	A	0.0000
P_207	W	0.0000
P_207	C	0.0000
P_207	D	0.0000
P_207	TVHC	0.0000
P_208	A	0.0000
P_208	W	0.0000
P_208	C	0.0000
P_208	D	0.0000
P_208	TVHC	0.0000
P_209	A	0.0000
P_209	W	0.0000
P_209	C	0.0000
P_209	D	0.0000
P_209	TVHC	0.0000
P_210	A	0.0000
P_210	W	0.0000
P_210	C	0.0000
P_210	D	0.0000
P_210	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/19/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
P_211	A	0.0000
P_211	W	0.0000
P_211	C	0.0000
P_211	D	0.0000
P_211	TVHC	0.0000
P_212	A	0.0000
P_212	W	0.0000
P_212	C	0.0000
P_212	D	0.0000
P_212	TVHC	0.0000
P_213	A	0.0000
P_213	W	0.0000
P_213	C	0.0000
P_213	D	0.0000
P_213	TVHC	0.0000
P_214	A	0.0000
P_214	W	0.0000
P_214	C	0.0000
P_214	D	0.0000
P_214	TVHC	0.0000
P_215	A	0.0000
P_215	W	0.0000
P_215	C	0.0000
P_215	D	0.0000
P_215	TVHC	0.0000
P_216	A	0.0000
P_216	W	0.0000
P_216	C	0.0000
P_216	D	0.0000
P_216	TVHC	0.0000
P_217	A	0.0000
P_217	W	0.0000
P_217	C	0.0000
P_217	D	0.0000
P_217	TVHC	0.0000
P_218	A	0.0000
P_218	W	0.0000
P_218	C	0.0000
P_218	D	0.0000
P_218	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)

TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/19/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
P_219	A	0.0000
P_219	W	0.0000
P_219	C	0.0000
P_219	D	0.0000
P_219	TVHC	0.0000
P_220	A	0.0000
P_220	W	0.0000
P_220	C	0.0000
P_220	D	0.0000
P_220	TVHC	0.0000
P_221	A	0.0000
P_221	W	0.0000
P_221	C	0.0000
P_221	D	0.0000
P_221	TVHC	0.0000
P_222	A	0.0000
P_222	W	0.0000
P_222	C	0.0000
P_222	D	0.0000
P_222	TVHC	0.0000
P_223	A	0.0000
P_223	W	0.0000
P_223	C	0.0000
P_223	D	0.0000
P_223	TVHC	0.0000
P_224	A	0.0000
P_224	W	0.0000
P_224	C	0.0000
P_224	D	0.0000
P_224	TVHC	0.0000
P_225	A	0.0000
P_225	W	0.0000
P_225	C	0.0000
P_225	D	0.0000
P_225	TVHC	0.0000
P_226	A	0.0000
P_226	W	0.0000
P_226	C	0.0000
P_226	D	0.0000
P_226	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/19/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
P_227	A	0.0000
P_227	W	0.0000
P_227	C	0.0000
P_227	D	0.0000
P_227	TVHC	0.0000
P_228	A	0.0000
P_228	W	0.0000
P_228	C	0.0000
P_228	D	0.0000
P_228	TVHC	0.0000
P_229	A	0.0000
P_229	W	0.0000
P_229	C	0.0000
P_229	D	0.0000
P_229	TVHC	0.0000
P_230	A	0.0000
P_230	W	0.0000
P_230	C	0.0000
P_230	D	0.0000
P_230	TVHC	0.0000
P_231	A	0.0000
P_231	W	0.0000
P_231	C	0.0000
P_231	D	0.0000
P_231	TVHC	0.0000
P_232	A	0.0000
P_232	W	0.0000
P_232	C	0.0000
P_232	D	0.0000
P_232	TVHC	0.0000
P_233	A	0.0000
P_233	W	0.0000
P_233	C	0.0000
P_233	D	0.0000
P_233	TVHC	0.0000
P_234	A	0.0000
P_234	W	0.0000
P_234	C	0.0000
P_234	D	0.0000
P_234	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)

TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/19/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
P_235	A	0.0000
P_235	W	0.0000
P_235	C	0.0000
P_235	D	0.0000
P_235	TVHC	0.0000
P_236	A	0.0000
P_236	W	0.0000
P_236	C	0.0000
P_236	D	0.0000
P_236	TVHC	0.0000
P_237	A	0.0000
P_237	W	0.0000
P_237	C	0.0000
P_237	D	0.0000
P_237	TVHC	0.0000
P_238	A	0.0000
P_238	W	0.0000
P_238	C	0.0000
P_238	D	0.0000
P_238	TVHC	0.0000
P_239	A	0.0000
P_239	W	0.0000
P_239	C	0.0000
P_239	D	0.0000
P_239	TVHC	0.0000
P_240	A	0.0000
P_240	W	0.0000
P_240	C	0.0000
P_240	D	0.0000
P_240	TVHC	0.0000
P_241	A	0.0000
P_241	W	0.0000
P_241	C	0.0000
P_241	D	0.0000
P_241	TVHC	0.0000
P_242	A	0.0000
P_242	W	0.0000
P_242	C	0.0000
P_242	D	0.0000
P_242	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)

TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/19/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
P_243	A	0.0000
P_243	W	0.0000
P_243	C	0.0000
P_243	D	0.0000
P_243	TVHC	0.0000
P_244	A	0.0000
P_244	W	0.0000
P_244	C	0.0000
P_244	D	0.0000
P_244	TVHC	0.0000
P_245	A	0.0000
P_245	W	0.0000
P_245	C	0.0000
P_245	D	0.0000
P_245	TVHC	0.0000
P_246	A	0.0000
P_246	W	0.0000
P_246	C	0.0000
P_246	D	0.0000
P_246	TVHC	0.0000
P_247	A	0.0000
P_247	W	0.0000
P_247	C	0.0000
P_247	D	0.0000
P_247	TVHC	0.0000
P_248	A	0.0000
P_248	W	0.0000
P_248	C	0.0000
P_248	D	0.0000
P_248	TVHC	0.0000
P_249	A	0.0000
P_249	W	0.0000
P_249	C	0.0000
P_249	D	0.0000
P_249	TVHC	0.0000
P_250	A	0.0000
P_250	W	0.0000
P_250	C	0.0000
P_250	D	0.0000
P_250	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)

TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/19/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
P_251	A	0.0000
P_251	W	0.0000
P_251	C	0.0000
P_251	D	0.0000
P_251	TVHC	0.0000
P_252	A	0.0000
P_252	W	0.0000
P_252	C	0.0000
P_252	D	0.0000
P_252	TVHC	0.0000
P_253	A	0.0000
P_253	W	0.0000
P_253	C	0.0000
P_253	D	0.0000
P_253	TVHC	0.0000
P_254	A	0.0000
P_254	W	0.0000
P_254	C	0.0000
P_254	D	0.0000
P_254	TVHC	0.0000
P_255	A	0.0000
P_255	W	0.0000
P_255	C	0.0000
P_255	D	0.0000
P_255	TVHC	0.0000
P_256	A	0.0000
P_256	W	0.0000
P_256	C	0.0000
P_256	D	0.0000
P_256	TVHC	0.0000
P_257	A	0.0000
P_257	W	0.0000
P_257	C	0.0000
P_257	D	0.0000
P_257	TVHC	0.0000
P_258	A	0.0000
P_258	W	0.0000
P_258	C	0.0000
P_258	D	0.0000
P_258	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/19/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
P_259	A	0.0000
P_259	W	0.0000
P_259	C	0.0000
P_259	D	0.0000
P_259	TVHC	0.0000
P_260	A	0.0000
P_260	W	0.0000
P_260	C	0.0000
P_260	D	0.0000
P_260	TVHC	0.0000
P_261	A	0.0000
P_261	W	0.0000
P_261	C	0.0000
P_261	D	0.0000
P_261	TVHC	0.0000
P_262	A	0.0000
P_262	W	0.0000
P_262	C	0.0000
P_262	D	0.0000
P_262	TVHC	0.0000
P_263	A	0.0000
P_263	W	0.0000
P_263	C	0.0000
P_263	D	0.0000
P_263	TVHC	0.0000
P_264	A	0.0000
P_264	W	0.0000
P_264	C	0.0000
P_264	D	0.0000
P_264	TVHC	0.0000
P_265	A	0.0000
P_265	W	0.0000
P_265	C	0.0000
P_265	D	0.0000
P_265	TVHC	0.0000
P_266	A	0.0000
P_266	W	0.0000
P_266	C	0.0000
P_266	D	0.0000
P_266	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/19/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
P_267	A	0.0000
P_267	W	0.0000
P_267	C	0.0000
P_267	D	0.0000
P_267	TVHC	0.0000
P_268	A	0.0000
P_268	W	0.0000
P_268	C	0.0000
P_268	D	0.0000
P_268	TVHC	0.0000
P_269	A	0.0000
P_269	W	0.0000
P_269	C	0.0000
P_269	D	0.0000
P_269	TVHC	0.0000
P_270	A	0.0000
P_270	W	0.0000
P_270	C	0.0000
P_270	D	0.0000
P_270	TVHC	0.0000
P_271	A	0.0000
P_271	W	0.0000
P_271	C	0.0000
P_271	D	0.0000
P_271	TVHC	0.0000
P_272	A	0.0000
P_272	W	0.0000
P_272	C	0.0000
P_272	D	0.0000
P_272	TVI IC	0.0000
P_273	A	0.0000
P_273	W	0.0000
P_273	C	0.0000
P_273	D	0.0000
P_273	TVHC	0.0000
P_274	A	0.0000
P_274	W	0.0000
P_274	C	0.0000
P_274	D	0.0000
P_274	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/19/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
P_275	A	0.0000
P_275	W	0.0000
P_275	C	0.0000
P_275	D	0.0000
P_275	TVHC	0.0000
P_AIR007	A	0.0000
P_AIR007	W	0.0000
P_AIR007	C	0.0000
P_AIR007	D	0.0000
P_AIR007	TVHC	0.0000
P_277	A	0.0000
P_277	W	0.0000
P_277	C	0.0000
P_277	D	0.0000
P_277	TVHC	0.0000
P_278	A	0.0000
P_278	W	0.0000
P_278	C	0.0000
P_278	D	0.0000
P_278	TVHC	0.0000
P_AIR008	A	0.0000
P_AIR008	W	0.0000
P_AIR008	C	0.0000
P_AIR008	D	0.0000
P_AIR008	TVHC	0.0000
P_280	A	0.0000
P_280	W	0.0000
P_280	C	0.0000
P_280	D	0.0000
P_280	TVHC	0.0000
P_281	A	0.0000
P_281	W	0.0000
P_281	C	0.0000
P_281	D	0.0000
P_281	TVHC	0.0000
P_282	A	0.0000
P_282	W	0.0000
P_282	C	0.0000
P_282	D	0.0000
P_282	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/19/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
P_283	A	0.0000
P_283	W	0.0000
P_283	C	0.0000
P_283	D	0.0000
P_283	TVHC	0.0000
P_284	A	0.0000
P_284	W	0.0000
P_284	C	0.0000
P_284	D	0.0000
P_284	TVHC	0.0000
P_285	A	0.0000
P_285	W	0.0000
P_285	C	0.0000
P_285	D	0.0000
P_285	TVHC	0.0000
P_286	A	0.0000
P_286	W	0.0000
P_286	C	0.0000
P_286	D	0.0000
P_286	TVHC	0.0000
P_287	A	0.0000
P_287	W	0.0000
P_287	C	0.0000
P_287	D	0.0000
P_287	TVHC	0.0000
P_288	A	0.0000
P_288	W	0.0000
P_288	C	0.0000
P_288	D	0.0000
P_288	TVHC	0.0000
P_AIR009	A	0.0000
P_AIR009	W	0.0000
P_AIR009	C	0.0000
P_AIR009	D	0.0000
P_AIR009	TVHC	0.0000
P_290	A	0.0000
P_290	W	0.0000
P_290	C	0.0000
P_290	D	0.0000
P_290	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/19/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
P_AIR010	A	0.0000
P_AIR010	W	0.0000
P_AIR010	C	0.0000
P_AIR010	D	0.0000
P_AIR010	TVHC	0.0000
P_292	A	0.0000
P_292	W	0.0000
P_292	C	0.0000
P_292	D	0.0000
P_292	TVHC	0.0000
P_293	A	0.0000
P_293	W	0.0000
P_293	C	0.0000
P_293	D	0.0000
P_293	TVHC	0.0000
P_294	A	0.0000
P_294	W	0.0000
P_294	C	0.0000
P_294	D	0.0000
P_294	TVHC	0.0000
P_295	A	0.0000
P_295	W	0.0000
P_295	C	0.0000
P_295	D	0.0000
P_295	TVHC	0.0000
P_296	A	0.0000
P_296	W	0.0000
P_296	C	0.0000
P_296	D	0.0000
P_296	TVHC	0.0000
P_297	A	0.0000
P_297	W	0.0000
P_297	C	0.0000
P_297	D	0.0000
P_297	TVHC	0.0000
P_298	A	0.0000
P_298	W	0.0000
P_298	C	0.0000
P_298	D	0.0000
P_298	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/19/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
P_299	A	0.0000
P_299	W	0.0000
P_299	C	0.0000
P_299	D	0.0000
P_299	TVHC	0.0000
P_300	A	0.0000
P_300	W	0.0000
P_300	C	0.0000
P_300	D	0.0000
P_300	TVHC	0.0000
P_301	A	0.0000
P_301	W	0.0000
P_301	C	0.0000
P_301	D	0.0000
P_301	TVHC	0.0000
P_AIR011	A	0.0000
P_AIR011	W	0.0000
P_AIR011	C	0.0000
P_AIR011	D	0.0000
P_AIR011	TVHC	0.0000
P_AIR012	A	0.0000
P_AIR012	W	0.0000
P_AIR012	C	0.0000
P_AIR012	D	0.0000
P_AIR012	TVHC	0.0000
P_304	A	0.0000
P_304	W	0.0000
P_304	C	0.0000
P_304	D	0.0000
P_304	TVHC	0.0000
P_305	A	0.0000
P_305	W	0.0000
P_305	C	0.0000
P_305	D	0.0000
P_305	TVHC	0.0000
P_306	A	0.0000
P_306	W	0.0000
P_306	C	0.0000
P_306	D	0.0000
P_306	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRAIT & WHITNEY / EAST HARTFORD, CT
DATE: 12/19/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
P_307	A	0.0000
P_307	W	0.0000
P_307	C	0.0000
P_307	D	0.0000
P_307	TVHC	0.0000
P_308	A	0.0000
P_308	W	0.0000
P_308	C	0.0000
P_308	D	0.0000
P_308	TVHC	0.0000
P_309	A	0.0000
P_309	W	0.0000
P_309	C	0.0000
P_309	D	0.0000
P_309	TVHC	0.0000
P_310	A	0.0000
P_310	W	0.0000
P_310	C	0.0000
P_310	D	0.0000
P_310	TVHC	0.0000
P_311	A	0.0000
P_311	W	0.0000
P_311	C	0.0000
P_311	D	0.0000
P_311	TVHC	0.0000
P_312	A	0.0000
P_312	W	0.0000
P_312	C	0.0000
P_312	D	0.0000
P_312	TVHC	0.0000
P_313	A	0.0000
P_313	W	0.0000
P_313	C	0.0000
P_313	D	0.0000
P_313	TVHC	0.0000
P_314	A	0.0000
P_314	W	0.0000
P_314	C	0.0000
P_314	D	0.0000
P_314	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/19/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
P_315	A	0.0000
P_315	W	0.0000
P_315	C	0.0000
P_315	D	0.0000
P_315	TVHC	0.0000
P_316	A	0.0000
P_316	W	0.0000
P_316	C	0.0000
P_316	D	0.0000
P_316	TVHC	0.0000
P_AIR013	A	0.0000
P_AIR013	W	0.0000
P_AIR013	C	0.0000
P_AIR013	D	0.0000
P_AIR013	TVHC	0.0000
P_318	A	0.0000
P_318	W	0.0000
P_318	C	0.0000
P_318	D	0.0000
P_318	TVHC	0.0000
P_319	A	0.0000
P_319	W	0.0000
P_319	C	0.0000
P_319	D	0.0000
P_319	TVHC	0.0000
P_320	A	0.0000
P_320	W	0.0000
P_320	C	0.0000
P_320	D	0.0000
P_320	TVHC	0.0000
P_321	A	0.0000
P_321	W	0.3262
P_321	C	0.0000
P_321	D	0.0000
P_321	TVHC	0.0660
P_322	A	0.0000
P_322	W	0.0000
P_322	C	0.0000
P_322	D	0.0000
P_322	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/19/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
P_323	A	0.0000
P_323	W	0.0000
P_323	C	0.0000
P_323	D	0.0000
P_323	TVHC	0.0000
P_324	A	0.0000
P_324	W	0.0000
P_324	C	0.0000
P_324	D	0.0000
P_324	TVHC	0.0000
P_325	A	0.0000
P_325	W	0.0000
P_325	C	0.0000
P_325	D	0.0000
P_325	TVHC	0.0000
P_326	A	0.0000
P_326	W	0.0000
P_326	C	0.0000
P_326	D	0.0000
P_326	TVHC	0.0000
P_327	A	0.0000
P_327	W	0.0000
P_327	C	0.0000
P_327	D	0.0000
P_327	TVHC	0.0000
P_AIR015	A	0.0000
P_AIR015	W	0.0000
P_AIR015	C	0.0000
P_AIR015	D	0.0000
P_AIR015	TVHC	0.0000
P_AIR016	A	0.0000
P_AIR016	W	0.0000
P_AIR016	C	0.0000
P_AIR016	D	0.0000
P_AIR016	TVHC	0.0000
P_AIR017	A	0.0000
P_AIR017	W	0.0000
P_AIR017	C	0.0000
P_AIR017	D	0.0000
P_AIR017	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/29/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_1	A	0.0000
B:P_1	W	0.0000
B:P_1	C	0.0000
B:P_1	D	0.0000
B:P_1	TVHC	0.0000
B:P_2	A	0.0000
B:P_2	W	0.0000
B:P_2	C	0.0000
B:P_2	D	0.0000
B:P_2	TVHC	0.0000
B:P_3	A	0.0000
B:P_3	W	1.8576
B:P_3	C	0.0000
B:P_3	D	0.0000
B:P_3	TVHC	0.1130
B:P_4	A	0.0000
B:P_4	W	1.3276
B:P_4	C	0.0000
B:P_4	D	0.0000
B:P_4	TVHC	0.0000
B:P_5	A	0.0000
B:P_5	W	0.0000
B:P_5	C	0.0000
B:P_5	D	0.0000
B:P_5	TVHC	0.0000
B:P_6	A	0.0000
B:P_6	W	0.0000
B:P_6	C	0.0000
B:P_6	D	0.0000
B:P_6	TVHC	0.0000
B:P_7	A	0.0000
B:P_7	W	0.0000
B:P_7	C	0.0000
B:P_7	D	0.0000
B:P_7	TVHC	0.0000
B:P_8	A	0.0000
B:P_8	W	0.0000
B:P_8	C	0.0000
B:P_8	D	0.0000
B:P_8	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/900
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_9	A	0.0000
B:P_9	W	0.0000
B:P_9	C	0.0000
B:P_9	D	0.0000
B:P_9	TVHC	0.0000
B:P_10	A	0.0000
B:P_10	W	0.0000
B:P_10	C	0.0000
B:P_10	D	0.0000
B:P_10	TVHC	0.0000
B:P_11	A	0.0000
B:P_11	W	0.0000
B:P_11	C	0.0000
B:P_11	D	0.0000
B:P_11	TVHC	0.0000
B:P_12	A	0.0000
B:P_12	W	0.0000
B:P_12	C	0.0000
B:P_12	D	0.0000
B:P_12	TVHC	0.0000
B:P_13	A	0.0000
B:P_13	W	0.0000
B:P_13	C	0.0000
B:P_13	D	0.0000
B:P_13	TVHC	0.0000
B:P_14	A	0.0000
B:P_14	W	0.0000
B:P_14	C	0.0000
B:P_14	D	0.0000
B:P_14	TVHC	0.0000
B:P_15	A	0.0000
B:P_15	W	0.0000
B:P_15	C	0.0000
B:P_15	D	0.0000
B:P_15	TVHC	0.0000
B:P_16	A	0.0000
B:P_16	W	0.0000
B:P_16	C	0.0000
B:P_16	D	0.0000
B:P_16	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/900
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_17	A	0.0000
B:P_17	W	0.0000
B:P_17	C	0.0000
B:P_17	D	0.0000
B:P_17	TVHC	0.0000
B:P_18	A	0.0000
B:P_18	W	0.0000
B:P_18	C	0.0000
B:P_18	D	0.0000
B:P_18	TVHC	0.0510
B:P_19	A	0.0000
B:P_19	W	0.0000
B:P_19	C	0.0000
B:P_19	D	0.0000
B:P_19	TVHC	0.0000
B:P_20	A	0.0000
B:P_20	W	0.0000
B:P_20	C	0.0000
B:P_20	D	0.0000
B:P_20	TVHC	0.0000
B:P_21	A	0.0000
B:P_21	W	0.0000
B:P_21	C	0.0000
B:P_21	D	0.0000
B:P_21	TVHC	0.0000
B:P_22	A	0.0000
B:P_22	W	0.0000
B:P_22	C	0.0000
B:P_22	D	0.0000
B:P_22	TVHC	0.0000
B:P_23	A	0.0000
B:P_23	W	0.0000
B:P_23	C	0.0000
B:P_23	D	0.0000
B:P_23	TVHC	0.0000
B:P_24	A	0.0000
B:P_24	W	0.0000
B:P_24	C	0.0000
B:P_24	D	0.0000
B:P_24	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/900
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_25	A	0.0000
B:P_25	W	0.0000
B:P_25	C	0.0000
B:P_25	D	0.0000
B:P_25	TVHC	0.0000
B:P_26	A	0.0000
B:P_26	W	0.0000
B:P_26	C	0.0000
B:P_26	D	0.0000
B:P_26	TVHC	0.0000
B:P_27	A	0.0000
B:P_27	W	0.0000
B:P_27	C	0.0000
B:P_27	D	0.0000
B:P_27	TVHC	0.0000
B:P_28	A	0.0000
B:P_28	W	0.0000
B:P_28	C	0.0000
B:P_28	D	0.0000
B:P_28	TVHC	0.0000
B:P_29	A	0.0000
B:P_29	W	0.0000
B:P_29	C	0.0000
B:P_29	D	0.0000
B:P_29	TVHC	0.0000
B:P_30	A	0.0000
B:P_30	W	0.0000
B:P_30	C	0.0000
B:P_30	D	0.0000
B:P_30	TVHC	0.0000
B:P_31	A	0.0000
B:P_31	W	0.0000
B:P_31	C	0.0000
B:P_31	D	0.0000
B:P_31	TVHC	0.0000
B:P_32	A	0.0000
B:P_32	W	0.0000
B:P_32	C	0.0000
B:P_32	D	0.0000
B:P_32	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/9/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_33	A	0.0000
B:P_33	W	0.0000
B:P_33	C	0.0000
B:P_33	D	0.0000
B:P_33	TVHC	0.0000
B:P_34	A	0.0000
B:P_34	W	0.0000
B:P_34	C	0.0000
B:P_34	D	0.0000
B:P_34	TVHC	0.0000
B:P_35	A	0.0000
B:P_35	W	0.0000
B:P_35	C	0.0000
B:P_35	D	0.0000
B:P_35	TVHC	0.0000
B:P_36	A	0.0000
B:P_36	W	0.0000
B:P_36	C	0.0000
B:P_36	D	0.0000
B:P_36	TVHC	0.0000
B:P_37	A	0.0000
B:P_37	W	0.0000
B:P_37	C	0.0000
B:P_37	D	0.0000
B:P_37	TVHC	0.0000
B:P_38	A	0.0000
B:P_38	W	0.0000
B:P_38	C	0.0000
B:P_38	D	0.0000
B:P_38	TVHC	0.0000
B:P_39	A	0.0000
B:P_39	W	0.0000
B:P_39	C	0.0000
B:P_39	D	0.0000
B:P_39	TVHC	0.0000
B:P_40	A	0.0000
B:P_40	W	0.0000
B:P_40	C	0.0000
B:P_40	D	0.0000
B:P_40	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/900
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_41	A	0.0000
B:P_41	W	0.0000
B:P_41	C	0.0000
B:P_41	D	0.0000
B:P_41	TVHC	0.0000
B:P_42	A	0.0000
B:P_42	W	0.0000
B:P_42	C	0.0000
B:P_42	D	0.0000
B:P_42	TVHC	0.0000
B:P_43	A	0.0000
B:P_43	W	0.0000
B:P_43	C	0.0000
B:P_43	D	0.0000
B:P_43	TVHC	0.0000
B:P_44	A	0.0000
B:P_44	W	0.0000
B:P_44	C	0.0000
B:P_44	D	0.0000
B:P_44	TVHC	0.0000
B:P_45	A	0.0000
B:P_45	W	0.0000
B:P_45	C	0.0000
B:P_45	D	0.0000
B:P_45	TVHC	0.0000
B:P_46	A	0.0000
B:P_46	W	0.0000
B:P_46	C	0.0000
B:P_46	D	0.0000
B:P_46	TVHC	0.0000
B:P_47	A	0.0000
B:P_47	W	0.0000
B:P_47	C	0.0000
B:P_47	D	0.0000
B:P_47	TVHC	0.0000
B:P_48	A	0.0000
B:P_48	W	0.0000
B:P_48	C	0.0000
B:P_48	D	0.0000
B:P_48	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/900
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_49	A	0.0000
B:P_49	W	0.0000
B:P_49	C	0.0000
B:P_49	D	0.0000
B:P_49	TVHC	0.0000
B:P_50	A	0.0000
B:P_50	W	0.0000
B:P_50	C	0.0000
B:P_50	D	0.0000
B:P_50	TVHC	0.0000
B:P_51	A	0.0000
B:P_51	W	0.0000
B:P_51	C	0.0000
B:P_51	D	0.0000
B:P_51	TVHC	0.0000
B:P_52	A	0.0000
B:P_52	W	0.0000
B:P_52	C	0.0000
B:P_52	D	0.0000
B:P_52	TVHC	0.0000
B:P_53	A	0.0000
B:P_53	W	0.0000
B:P_53	C	0.0000
B:P_53	D	0.0000
B:P_53	TVHC	0.0000
B:P_54	A	0.0000
B:P_54	W	0.0000
B:P_54	C	0.0000
B:P_54	D	0.0000
B:P_54	TVHC	0.0000
B:P_55	A	0.0000
B:P_55	W	0.0000
B:P_55	C	0.0000
B:P_55	D	0.0000
B:P_55	TVHC	0.0000
B:P_56	A	0.0000
B:P_56	W	0.0000
B:P_56	C	0.0000
B:P_56	D	0.0000
B:P_56	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/900
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_57	A	0.0000
B:P_57	W	0.0000
B:P_57	C	0.0000
B:P_57	D	0.0000
B:P_57	TVHC	0.0000
B:P_59	A	0.0000
B:P_59	W	0.0000
B:P_59	C	0.0000
B:P_59	D	0.0000
B:P_59	TVHC	0.0000
B:P_60	A	0.0000
B:P_60	W	0.0000
B:P_60	C	0.0000
B:P_60	D	0.0000
B:P_60	TVHC	0.0000
B:P_61	A	0.0000
B:P_61	W	0.0000
B:P_61	C	0.0000
B:P_61	D	0.0000
B:P_61	TVHC	0.0000
B:P_62	A	0.0000
B:P_62	W	0.0000
B:P_62	C	0.0000
B:P_62	D	0.0000
B:P_62	TVHC	0.0000
B:P_63	A	0.0000
B:P_63	W	0.0000
B:P_63	C	0.0000
B:P_63	D	0.0000
B:P_63	TVHC	0.0000
B:P_64	A	0.0000
B:P_64	W	0.0000
B:P_64	C	0.0000
B:P_64	D	0.0000
B:P_64	TVHC	0.0000
B:P_65	A	0.0000
B:P_65	W	0.0000
B:P_65	C	0.0000
B:P_65	D	0.0000
B:P_65	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/900
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_67	A	0.0000
B:P_67	W	0.0000
B:P_67	C	0.0000
B:P_67	D	0.0000
B:P_67	TVHC	0.0000
B:P_68	A	0.0000
B:P_68	W	0.0000
B:P_68	C	0.0000
B:P_68	D	0.0000
B:P_68	TVHC	0.0000
B:P_69	A	0.0000
B:P_69	W	0.0000
B:P_69	C	0.0000
B:P_69	D	0.0000
B:P_69	TVHC	0.0000
B:P_70	A	0.0000
B:P_70	W	0.0000
B:P_70	C	0.0000
B:P_70	D	0.0000
B:P_70	TVHC	0.0000
B:P_71	A	0.0000
B:P_71	W	0.0000
B:P_71	C	0.0000
B:P_71	D	0.0000
B:P_71	TVHC	0.0000
B:P_72	A	0.0000
B:P_72	W	0.0000
B:P_72	C	0.0000
B:P_72	D	0.0000
B:P_72	TVHC	0.0000
B:P_73	A	0.0000
B:P_73	W	0.0000
B:P_73	C	0.0000
B:P_73	D	0.0000
B:P_73	TVHC	0.0000
B:P_74	A	0.0000
B:P_74	W	0.0000
B:P_74	C	0.0000
B:P_74	D	0.0000
B:P_74	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/90
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_75	A	0.0000
B:P_75	W	0.0000
B:P_75	C	0.0000
B:P_75	D	0.0000
B:P_75	TVHC	0.1560
B:P_76	A	0.0000
B:P_76	W	0.0000
B:P_76	C	0.0000
B:P_76	D	0.0000
B:P_76	TVHC	0.0000
B:P_77	A	0.0000
B:P_77	W	0.0000
B:P_77	C	0.0000
B:P_77	D	0.0000
B:P_77	TVHC	0.0000
B:P_78	A	0.0000
B:P_78	W	0.0000
B:P_78	C	0.0000
B:P_78	D	0.0000
B:P_78	TVHC	0.0000
B:P_79	A	0.0000
B:P_79	W	0.0000
B:P_79	C	0.0000
B:P_79	D	0.0000
B:P_79	TVHC	0.0000
B:P_80	A	0.0000
B:P_80	W	0.0000
B:P_80	C	0.0000
B:P_80	D	0.0000
B:P_80	TVHC	0.0000
B:P_81	A	0.0000
B:P_81	W	0.0000
B:P_81	C	0.0000
B:P_81	D	0.0000
B:P_81	TVHC	0.0000
B:P_82	A	0.0000
B:P_82	W	0.0000
B:P_82	C	0.0000
B:P_82	D	0.0000
B:P_82	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/900
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_83	A	0.0000
B:P_83	W	0.0000
B:P_83	C	0.0000
B:P_83	D	0.0000
B:P_83	TVHC	0.0000
B:P_84	A	0.0000
B:P_84	W	0.0000
B:P_84	C	0.0000
B:P_84	D	0.0000
B:P_84	TVHC	0.0000
B:P_85	A	0.0000
B:P_85	W	0.0000
B:P_85	C	0.0000
B:P_85	D	0.0000
B:P_85	TVHC	0.0000
B:P_86	A	0.0000
B:P_86	W	0.0000
B:P_86	C	0.0000
B:P_86	D	0.0000
B:P_86	TVHC	0.0000
B:P_87	A	0.0000
B:P_87	W	0.0000
B:P_87	C	0.0000
B:P_87	D	0.0000
B:P_87	TVHC	0.0000
B:P_88	A	0.0000
B:P_88	W	0.0000
B:P_88	C	0.0000
B:P_88	D	0.0000
B:P_88	TVHC	0.0000
B:P_89	A	0.0000
B:P_89	W	0.0000
B:P_89	C	0.0000
B:P_89	D	0.0000
B:P_89	TVHC	0.0000
B:P_90	A	0.0000
B:P_90	W	0.0000
B:P_90	C	0.0000
B:P_90	D	0.0000
B:P_90	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/900
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_91	A	0.0000
B:P_91	W	0.0000
B:P_91	C	0.0000
B:P_91	D	0.0000
B:P_91	TVHC	0.0000
B:P_92	A	0.0000
B:P_92	W	0.0000
B:P_92	C	0.0000
B:P_92	D	0.0000
B:P_92	TVHC	0.0000
B:P_93	A	0.0000
B:P_93	W	0.0000
B:P_93	C	0.0000
B:P_93	D	0.0000
B:P_93	TVHC	0.0000
B:P_94	A	0.0000
B:P_94	W	0.0000
B:P_94	C	0.0000
B:P_94	D	0.0000
B:P_94	TVHC	0.0000
B:P_95	A	0.0000
B:P_95	W	0.0000
B:P_95	C	0.0000
B:P_95	D	0.0000
B:P_95	TVHC	0.0000
B:P_96	A	0.0000
B:P_96	W	0.0000
B:P_96	C	0.0000
B:P_96	D	0.0000
B:P_96	TVHC	0.0000
B:P_97	A	0.0000
B:P_97	W	0.0000
B:P_97	C	0.0000
B:P_97	D	0.0000
B:P_97	TVHC	0.0000
B:P_98	A	0.0000
B:P_98	W	0.0000
B:P_98	C	0.0000
B:P_98	D	0.0000
B:P_98	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/9/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_99	A	0.0000
B:P_99	W	0.0000
B:P_99	C	0.0000
B:P_99	D	0.0000
B:P_99	TVHC	0.0000
B:P_100	A	0.0000
B:P_100	W	0.0000
B:P_100	C	0.0000
B:P_100	D	0.0000
B:P_100	TVHC	0.0000
B:P_101	A	0.0000
B:P_101	W	0.0000
B:P_101	C	0.0000
B:P_101	D	0.0000
B:P_101	TVHC	0.0000
B:P_103	A	0.0000
B:P_103	W	0.0000
B:P_103	C	0.0000
B:P_103	D	0.0000
B:P_103	TVHC	0.0000
B:P_104	A	0.0000
B:P_104	W	0.0000
B:P_104	C	0.0000
B:P_104	D	0.0000
B:P_104	TVHC	0.0000
B:P_105	A	0.0000
B:P_105	W	0.0000
B:P_105	C	0.0000
B:P_105	D	0.0000
B:P_105	TVHC	0.0000
B:P_106	A	0.0000
B:P_106	W	0.0000
B:P_106	C	0.0000
B:P_106	D	0.0000
B:P_106	TVHC	0.0000
B:P_107	A	0.0000
B:P_107	W	0.0000
B:P_107	C	0.0000
B:P_107	D	0.0000
B:P_107	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/9/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_108	A	0.0000
B:P_108	W	0.0000
B:P_108	C	0.0000
B:P_108	D	0.0000
B:P_108	TVHC	0.0000
B:P_109	A	0.0000
B:P_109	W	0.0000
B:P_109	C	0.0000
B:P_109	D	0.0000
B:P_109	TVHC	0.0000
B:P_110	A	0.0000
B:P_110	W	0.0000
B:P_110	C	0.0000
B:P_110	D	0.0000
B:P_110	TVHC	0.0000
B:P_111	A	0.0000
B:P_111	W	0.0000
B:P_111	C	0.0000
B:P_111	D	0.0000
B:P_111	TVHC	0.0000
B:P_112	A	0.0000
B:P_112	W	0.0000
B:P_112	C	0.0000
B:P_112	D	0.0000
B:P_112	TVHC	0.0000
B:P_113	A	0.0000
B:P_113	W	0.0000
B:P_113	C	0.0000
B:P_113	D	0.0000
B:P_113	TVHC	0.0000
B:P_114	A	0.0000
B:P_114	W	0.0000
B:P_114	C	0.0000
B:P_114	D	0.0000
B:P_114	TVHC	0.0000
B:P_115	A	0.0000
B:P_115	W	0.0000
B:P_115	C	0.0000
B:P_115	D	0.0000
B:P_115	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deer Park Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/9/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_116	A	0.0000
B:P_116	W	0.0000
B:P_116	C	0.0000
B:P_116	D	0.0000
B:P_116	TVHC	0.0000
B:P_117	A	0.0000
B:P_117	W	0.0000
B:P_117	C	0.0000
B:P_117	D	0.0000
B:P_117	TVHC	0.0000
B:P_118	A	0.0000
B:P_118	W	0.0000
B:P_118	C	0.0000
B:P_118	D	0.0000
B:P_118	TVHC	0.0000
B:P_119	A	0.0000
B:P_119	W	0.0000
B:P_119	C	0.0000
B:P_119	D	0.0000
B:P_119	TVHC	0.0000
B:P_120	A	0.0000
B:P_120	W	0.0000
B:P_120	C	0.0000
B:P_120	D	0.0000
B:P_120	TVHC	0.0000
B:P_121	A	0.0000
B:P_121	W	0.0000
B:P_121	C	0.0000
B:P_121	D	0.0000
B:P_121	TVHC	0.0000
B:P_122	A	0.0000
B:P_122	W	0.0000
B:P_122	C	0.0000
B:P_122	D	0.0000
B:P_122	TVHC	0.0000
B:P_123	A	0.0000
B:P_123	W	0.0000
B:P_123	C	0.0000
B:P_123	D	0.0000
B:P_123	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/90
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_124	A	0.0000
B:P_124	W	0.0000
B:P_124	C	0.0000
B:P_124	D	0.0000
B:P_124	TVHC	0.0000
B:P_125	A	0.0000
B:P_125	W	0.0000
B:P_125	C	0.0000
B:P_125	D	0.0000
B:P_125	TVHC	0.0000
B:P_126	A	0.0000
B:P_126	W	0.0000
B:P_126	C	0.0000
B:P_126	D	0.0000
B:P_126	TVHC	0.0000
B:P_127	A	0.0000
B:P_127	W	0.0000
B:P_127	C	0.0000
B:P_127	D	0.0000
B:P_127	TVHC	0.0000
B:P_128	A	0.0000
B:P_128	W	0.0000
B:P_128	C	0.0000
B:P_128	D	0.0000
B:P_128	TVHC	0.0000
B:P_129	A	0.0000
B:P_129	W	0.0000
B:P_129	C	0.0000
B:P_129	D	0.0000
B:P_129	TVHC	0.0000
B:P_130	A	0.0000
B:P_130	W	0.0000
B:P_130	C	0.0000
B:P_130	D	0.0000
B:P_130	TVHC	0.0000
B:P_131	A	0.0000
B:P_131	W	0.0000
B:P_131	C	0.0000
B:P_131	D	0.0000
B:P_131	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/900
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_132	A	0.0000
B:P_132	W	0.0000
B:P_132	C	0.0000
B:P_132	D	0.0000
B:P_132	TVHC	0.0000
B:P_133	A	0.0000
B:P_133	W	0.0000
B:P_133	C	0.0000
B:P_133	D	0.0000
B:P_133	TVHC	0.0000
B:P_134	A	0.0000
B:P_134	W	0.0000
B:P_134	C	0.0000
B:P_134	D	0.0000
B:P_134	TVHC	0.0000
B:P_135	A	0.0000
B:P_135	W	0.0000
B:P_135	C	0.0000
B:P_135	D	0.0000
B:P_135	TVHC	0.0000
B:P_136	A	0.0000
B:P_136	W	0.0000
B:P_136	C	0.0000
B:P_136	D	0.0000
B:P_136	TVHC	0.0000
B:P_137	A	0.0000
B:P_137	W	0.0000
B:P_137	C	0.0000
B:P_137	D	0.0000
B:P_137	TVHC	0.0000
B:P_138	A	0.0000
B:P_138	W	0.0000
B:P_138	C	0.0000
B:P_138	D	0.0000
B:P_138	TVHC	0.0000
B:P_139	A	0.0000
B:P_139	W	0.0000
B:P_139	C	0.0000
B:P_139	D	0.0000
B:P_139	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/900
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_140	A	0.0000
B:P_140	W	0.0000
B:P_140	C	0.0000
B:P_140	D	0.0000
B:P_140	TVHC	0.0000
B:P_141	A	0.0000
B:P_141	W	0.0000
B:P_141	C	0.0000
B:P_141	D	0.0000
B:P_141	TVHC	0.0000
B:P_142	A	0.0000
B:P_142	W	0.0000
B:P_142	C	0.0000
B:P_142	D	0.0000
B:P_142	TVHC	0.0000
B:P_143	A	0.0000
B:P_143	W	0.0000
B:P_143	C	0.0000
B:P_143	D	0.0000
B:P_143	TVHC	0.0000
B:P_144	A	0.0000
B:P_144	W	0.0000
B:P_144	C	0.0000
B:P_144	D	0.0000
B:P_144	TVHC	0.0000
B:P_145	A	0.0000
B:P_145	W	0.0000
B:P_145	C	0.0000
B:P_145	D	0.0000
B:P_145	TVHC	0.0000
B:P_146	A	0.0000
B:P_146	W	0.0000
B:P_146	C	0.0000
B:P_146	D	0.0000
B:P_146	TVHC	0.0000
B:P_147	A	0.0000
B:P_147	W	0.0000
B:P_147	C	0.0000
B:P_147	D	0.0000
B:P_147	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/9/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_148	A	0.0000
B:P_148	W	0.0000
B:P_148	C	0.0000
B:P_148	D	0.0000
B:P_148	TVHC	0.0000
B:P_149	A	0.0000
B:P_149	W	0.0000
B:P_149	C	0.0000
B:P_149	D	0.0000
B:P_149	TVHC	0.0000
B:P_150	A	0.0000
B:P_150	W	0.0000
B:P_150	C	0.0000
B:P_150	D	0.0000
B:P_150	TVHC	0.0000
B:P_151	A	0.0000
B:P_151	W	0.0000
B:P_151	C	0.0000
B:P_151	D	0.0000
B:P_151	TVHC	0.0000
B:P_152	A	0.0000
B:P_152	W	0.0000
B:P_152	C	0.0000
B:P_152	D	0.0000
B:P_152	TVHC	0.0000
B:P_153	A	0.0000
B:P_153	W	0.0000
B:P_153	C	0.0000
B:P_153	D	0.0000
B:P_153	TVHC	0.0000
B:P_154	A	0.0000
B:P_154	W	0.0000
B:P_154	C	0.0000
B:P_154	D	0.0000
B:P_154	TVHC	0.0000
B:P_155	A	0.0000
B:P_155	W	0.0000
B:P_155	C	0.0000
B:P_155	D	0.0000
B:P_155	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/9/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_156	A	0.0000
B:P_156	W	0.0000
B:P_156	C	0.0000
B:P_156	D	0.0000
B:P_156	TVHC	0.0000
B:P_157	A	0.0000
B:P_157	W	0.0000
B:P_157	C	0.0000
B:P_157	D	0.0000
B:P_157	TVHC	0.0000
B:P_158	A	0.0000
B:P_158	W	0.0000
B:P_158	C	0.0000
B:P_158	D	0.0000
B:P_158	TVHC	0.0000
B:P_159	A	0.0000
B:P_159	W	0.0000
B:P_159	C	0.0000
B:P_159	D	0.0000
B:P_159	TVHC	0.0000
B:P_160	A	0.0000
B:P_160	W	0.0000
B:P_160	C	0.0000
B:P_160	D	0.0000
B:P_160	TVHC	0.0000
B:P_161	A	0.0000
B:P_161	W	0.0000
B:P_161	C	0.0000
B:P_161	D	0.0000
B:P_161	TVHC	0.0000
B:P_162	A	0.0000
B:P_162	W	0.0000
B:P_162	C	0.0000
B:P_162	D	0.0000
B:P_162	TVHC	0.0000
B:P_163	A	0.0000
B:P_163	W	0.0000
B:P_163	C	0.0000
B:P_163	D	0.0000
B:P_163	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)

TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/9/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_164	A	0.0000
B:P_164	W	0.0000
B:P_164	C	0.0000
B:P_164	D	0.0000
B:P_164	TVHC	0.0000
B:P_165	A	0.0000
B:P_165	W	0.0000
B:P_165	C	0.0000
B:P_165	D	0.0000
B:P_165	TVHC	0.0000
B:P_166	A	0.0000
B:P_166	W	0.0000
B:P_166	C	0.0000
B:P_166	D	0.0000
B:P_166	TVHC	0.0000
B:P_167	A	0.0000
B:P_167	W	0.0000
B:P_167	C	0.0000
B:P_167	D	0.0000
B:P_167	TVHC	0.0000
B:P_168	A	0.0000
B:P_168	W	0.0000
B:P_168	C	0.0000
B:P_168	D	0.0000
B:P_168	TVHC	0.0000
B:P_169	A	0.0000
B:P_169	W	0.0000
B:P_169	C	0.0000
B:P_169	D	0.0000
B:P_169	TVHC	0.0000
B:P_170	A	0.0000
B:P_170	W	0.0000
B:P_170	C	0.0000
B:P_170	D	0.0000
B:P_170	TVHC	0.0000
B:P_171	A	0.0000
B:P_171	W	0.0000
B:P_171	C	0.0000
B:P_171	D	0.0000
B:P_171	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/900
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_172	A	0.0000
B:P_172	W	0.0000
B:P_172	C	0.0000
B:P_172	D	0.0000
B:P_172	TVHC	0.0000
B:P_173	A	0.0000
B:P_173	W	0.0000
B:P_173	C	0.0000
B:P_173	D	0.0000
B:P_173	TVHC	6.7020
B:P_174	A	0.0000
B:P_174	W	0.0000
B:P_174	C	0.0000
B:P_174	D	0.0000
B:P_174	TVHC	0.0000
B:P_175	A	0.0000
B:P_175	W	0.0000
B:P_175	C	0.0000
B:P_175	D	0.0000
B:P_175	TVHC	0.0000
B:P_176	A	0.0000
B:P_176	W	0.0000
B:P_176	C	0.0000
B:P_176	D	0.0000
B:P_176	TVHC	0.0000
B:P_177	A	0.0000
B:P_177	W	0.0000
B:P_177	C	0.0000
B:P_177	D	0.0000
B:P_177	TVHC	0.0000
B:P_178	A	0.0000
B:P_178	W	0.0000
B:P_178	C	0.0000
B:P_178	D	0.0000
B:P_178	TVHC	0.0000
B:P_179	A	0.0000
B:P_179	W	0.0000
B:P_179	C	0.0000
B:P_179	D	0.0000
B:P_179	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)

TVHC concentrations are reported in milligrams per liter (mg/L)

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/9/00
JOB NO.: 36268-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_180	A	0.0000
B:P_180	W	0.0000
B:P_180	C	0.0000
B:P_180	D	0.0000
B:P_180	TVHC	0.0000
B:P_181	A	0.0000
B:P_181	W	0.0000
B:P_181	C	0.0000
B:P_181	D	0.0000
B:P_181	TVHC	0.0000
B:P_182	A	0.0000
B:P_182	W	0.0000
B:P_182	C	0.0000
B:P_182	D	0.0000
B:P_182	TVHC	0.0000
B:P_183	A	0.0000
B:P_183	W	0.0000
B:P_183	C	0.0000
B:P_183	D	0.0000
B:P_183	TVHC	0.0000
B:P_184	A	0.0000
B:P_184	W	0.0000
B:P_184	C	0.0000
B:P_184	D	0.0000
B:P_184	TVHC	0.0000
B:P_185	A	0.0000
B:P_185	W	0.0000
B:P_185	C	0.0000
B:P_185	D	0.0000
B:P_185	TVHC	0.0000
B:P_186	A	0.0000
B:P_186	W	0.0000
B:P_186	C	0.0000
B:P_186	D	0.0000
B:P_186	TVHC	0.0000
B:P_187	A	0.0000
B:P_187	W	0.0000
B:P_187	C	0.0000
B:P_187	D	0.0000
B:P_187	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/9/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_188	A	0.0000
B:P_188	W	0.0000
B:P_188	C	0.0000
B:P_188	D	0.0000
B:P_188	TVHC	0.0000
B:P_189	A	0.0000
B:P_189	W	0.0000
B:P_189	C	0.0000
B:P_189	D	0.0000
B:P_189	TVHC	0.0000
B:P_190	A	0.0000
B:P_190	W	0.0000
B:P_190	C	0.0000
B:P_190	D	0.0000
B:P_190	TVHC	0.0000
B:P_191	A	0.0000
B:P_191	W	0.0000
B:P_191	C	0.0000
B:P_191	D	0.0000
B:P_191	TVHC	0.0000
B:P_192	A	0.0000
B:P_192	W	0.0000
B:P_192	C	0.0000
B:P_192	D	0.0000
B:P_192	TVHC	0.0000
B:P_193	A	0.0000
B:P_193	W	0.0000
B:P_193	C	0.0000
B:P_193	D	0.0000
B:P_193	TVHC	0.0000
B:P_194	A	0.0000
B:P_194	W	0.0000
B:P_194	C	0.0000
B:P_194	D	0.0000
B:P_194	TVHC	0.0000
B:P_195	A	0.0000
B:P_195	W	0.0000
B:P_195	C	0.0000
B:P_195	D	0.0000
B:P_195	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/9/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_196	A	0.0000
B:P_196	W	0.0000
B:P_196	C	0.0000
B:P_196	D	0.0000
B:P_196	TVHC	0.0000
B:P_197	A	0.0000
B:P_197	W	0.0000
B:P_197	C	0.0000
B:P_197	D	0.0000
B:P_197	TVHC	0.0000
B:P_198	A	0.0000
B:P_198	W	0.0000
B:P_198	C	0.0000
B:P_198	D	0.0000
B:P_198	TVHC	0.0000
B:P_199	A	0.0000
B:P_199	W	0.0000
B:P_199	C	0.0000
B:P_199	D	0.0000
B:P_199	TVHC	0.0000
B:P_200	A	0.0000
B:P_200	W	0.0000
B:P_200	C	0.0000
B:P_200	D	0.0000
B:P_200	TVHC	0.0000
B:P_201	A	0.0000
B:P_201	W	0.0000
B:P_201	C	0.0000
B:P_201	D	0.0000
B:P_201	TVHC	0.0000
B:P_202	A	0.0000
B:P_202	W	0.0000
B:P_202	C	0.0000
B:P_202	D	0.0000
B:P_202	TVHC	0.0000
B:P_203	A	0.0000
B:P_203	W	0.0000
B:P_203	C	0.0000
B:P_203	D	0.0000
B:P_203	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/900
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_204	A	0.0000
B:P_204	W	0.0000
B:P_204	C	0.0000
B:P_204	D	0.0000
B:P_204	TVHC	0.0000
B:P_205	A	0.0000
B:P_205	W	0.0000
B:P_205	C	0.0000
B:P_205	D	0.0000
B:P_205	TVHC	0.0000
B:P_206	A	0.0000
B:P_206	W	0.0000
B:P_206	C	0.0000
B:P_206	D	0.0000
B:P_206	TVHC	0.0000
B:P_207	A	0.0000
B:P_207	W	0.0000
B:P_207	C	0.0000
B:P_207	D	0.0000
B:P_207	TVHC	0.0000
B:P_208	A	0.0000
B:P_208	W	0.0000
B:P_208	C	0.0000
B:P_208	D	0.0000
B:P_208	TVHC	0.0000
B:P_209	A	0.0000
B:P_209	W	0.0000
B:P_209	C	0.0000
B:P_209	D	0.0000
B:P_209	TVHC	0.0000
B:P_210	A	0.0000
B:P_210	W	0.0000
B:P_210	C	0.0000
B:P_210	D	0.0000
B:P_210	TVHC	0.0000
B:P_211	A	0.0000
B:P_211	W	0.0000
B:P_211	C	0.0000
B:P_211	D	0.0000
B:P_211	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/9/00
JOB NO.: 36266-000.P

<u>SAMPLE</u>	<u>COMPOUND</u>	<u>CONCENTRATION</u>
B:P_212	A	0.0000
B:P_212	W	0.0000
B:P_212	C	0.0000
B:P_212	D	0.0000
B:P_212	TVHC	0.0000
B:P_213	A	0.0000
B:P_213	W	0.0000
B:P_213	C	0.0000
B:P_213	D	0.0000
B:P_213	TVHC	0.0000
B:P_214	A	0.0000
B:P_214	W	0.0000
B:P_214	C	0.0000
B:P_214	D	0.0000
B:P_214	TVHC	0.0000
B:P_215	A	0.0000
B:P_215	W	0.0000
B:P_215	C	0.0000
B:P_215	D	0.0000
B:P_215	TVHC	0.0000
B:P_216	A	0.0000
B:P_216	W	0.0000
B:P_216	C	0.0000
B:P_216	D	0.0000
B:P_216	TVHC	0.0000
B:P_217	A	0.0000
B:P_217	W	0.0305
B:P_217	C	0.0000
B:P_217	D	0.0000
B:P_217	TVHC	0.0000
B:P_218	A	0.0000
B:P_218	W	0.0000
B:P_218	C	0.0000
B:P_218	D	0.0000
B:P_218	TVHC	0.0000
B:P_219	A	0.0000
B:P_219	W	0.0000
B:P_219	C	0.0000
B:P_219	D	0.0000
B:P_219	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/9/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_220	A	0.0000
B:P_220	W	0.0000
B:P_220	C	0.0000
B:P_220	D	0.0000
B:P_220	TVHC	0.0000
B:P_221	A	0.0000
B:P_221	W	0.0000
B:P_221	C	0.0000
B:P_221	D	0.0000
B:P_221	TVHC	0.0000
B:P_222	A	0.0000
B:P_222	W	0.0000
B:P_222	C	0.0000
B:P_222	D	0.0000
B:P_222	TVHC	0.0000
B:P_223	A	0.0000
B:P_223	W	0.0000
B:P_223	C	0.0000
B:P_223	D	0.0000
B:P_223	TVHC	0.0000
B:P_224	A	0.0000
B:P_224	W	0.0000
B:P_224	C	0.0000
B:P_224	D	0.0000
B:P_224	TVHC	0.0000
B:P_225	A	0.0000
B:P_225	W	0.0000
B:P_225	C	0.0000
B:P_225	D	0.0000
B:P_225	TVHC	0.0000
B:P_226	A	0.0000
B:P_226	W	0.0000
B:P_226	C	0.0000
B:P_226	D	0.0000
B:P_226	TVHC	0.0000
B:P_227	A	0.0000
B:P_227	W	0.0000
B:P_227	C	0.0000
B:P_227	D	0.0000
B:P_227	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
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CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/9/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_228	A	0.0000
B:P_228	W	0.0000
B:P_228	C	0.0000
B:P_228	D	0.0000
B:P_228	TVHC	0.0000
B:P_229	A	0.0000
B:P_229	W	0.0000
B:P_229	C	0.0000
B:P_229	D	0.0000
B:P_229	TVHC	0.0000
B:P_230	A	0.0000
B:P_230	W	0.0000
B:P_230	C	0.0000
B:P_230	D	0.0000
B:P_230	TVHC	0.0000
B:P_231	A	0.0000
B:P_231	W	0.0000
B:P_231	C	0.0000
B:P_231	D	0.0000
B:P_231	TVHC	0.0000
B:P_232	A	0.0000
B:P_232	W	0.0000
B:P_232	C	0.0000
B:P_232	D	0.0000
B:P_232	TVHC	0.0000
B:P_233	A	0.0000
B:P_233	W	0.0000
B:P_233	C	0.0000
B:P_233	D	0.0000
B:P_233	TVHC	0.0000
B:P_234	A	0.0000
B:P_234	W	0.0000
B:P_234	C	0.0000
B:P_234	D	0.0000
B:P_234	TVHC	0.0000
B:P_235	A	0.0000
B:P_235	W	0.0000
B:P_235	C	0.0000
B:P_235	D	0.0000
B:P_235	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/9/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_236	A	0.0000
B:P_236	W	0.0000
B:P_236	C	0.0000
B:P_236	D	0.0000
B:P_236	TVHC	0.0000
B:P_237	A	0.0000
B:P_237	W	0.0000
B:P_237	C	0.0000
B:P_237	D	0.0000
B:P_237	TVHC	0.0000
B:P_238	A	0.0000
B:P_238	W	0.0000
B:P_238	C	0.0000
B:P_238	D	0.0000
B:P_238	TVHC	0.0000
B:P_239	A	0.0000
B:P_239	W	0.0000
B:P_239	C	0.0000
B:P_239	D	0.0000
B:P_239	TVHC	0.0000
B:P_240	A	0.0000
B:P_240	W	0.0000
B:P_240	C	0.0000
B:P_240	D	0.0000
B:P_240	TVHC	0.0000
B:P_241	A	0.0000
B:P_241	W	0.0000
B:P_241	C	0.0000
B:P_241	D	0.0000
B:P_241	TVHC	0.0000
B:P_242	A	0.0000
B:P_242	W	0.0000
B:P_242	C	0.0000
B:P_242	D	0.0000
B:P_242	TVHC	0.0000
B:P_243	A	0.0000
B:P_243	W	0.0000
B:P_243	C	0.0000
B:P_243	D	0.0000
B:P_243	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/9/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_244	A	0.0000
B:P_244	W	0.0000
B:P_244	C	0.0000
B:P_244	D	0.0000
B:P_244	TVHC	0.0000
B:P_245	A	0.0000
B:P_245	W	0.0000
B:P_245	C	0.0000
B:P_245	D	0.0000
B:P_245	TVHC	0.0000
B:P_246	A	0.0000
B:P_246	W	0.0000
B:P_246	C	0.0000
B:P_246	D	0.0000
B:P_246	TVHC	0.0000
B:P_247	A	0.0000
B:P_247	W	0.0000
B:P_247	C	0.0000
B:P_247	D	0.0000
B:P_247	TVHC	0.0000
B:P_248	A	0.0000
B:P_248	W	0.0000
B:P_248	C	0.0000
B:P_248	D	0.0000
B:P_248	TVHC	0.0000
B:P_249	A	0.0000
B:P_249	W	0.0000
B:P_249	C	0.0000
B:P_249	D	0.0000
B:P_249	TVHC	0.0000
B:P_250	A	0.0000
B:P_250	W	0.0000
B:P_250	C	0.0000
B:P_250	D	0.0000
B:P_250	TVHC	0.0000
B:P_251	A	0.0000
B:P_251	W	0.0000
B:P_251	C	0.0000
B:P_251	D	0.0000
B:P_251	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/900
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_252	A	0.0000
B:P_252	W	0.0000
B:P_252	C	0.0000
B:P_252	D	0.0000
B:P_252	TVHC	0.0000
B:P_253	A	0.0000
B:P_253	W	0.0000
B:P_253	C	0.0000
B:P_253	D	0.0000
B:P_253	TVHC	0.0000
B:P_254	A	0.0000
B:P_254	W	0.0000
B:P_254	C	0.0000
B:P_254	D	0.0000
B:P_254	TVHC	0.0000
B:P_255	A	0.0000
B:P_255	W	0.0000
B:P_255	C	0.0000
B:P_255	D	0.0000
B:P_255	TVHC	0.0000
B:P_256	A	0.0000
B:P_256	W	0.0000
B:P_256	C	0.0000
B:P_256	D	0.0000
B:P_256	TVHC	0.0000
B:P_257	A	0.0000
B:P_257	W	0.0000
B:P_257	C	0.0000
B:P_257	D	0.0000
B:P_257	TVHC	0.0000
B:P_258	A	0.0000
B:P_258	W	0.0000
B:P_258	C	0.0000
B:P_258	D	0.0000
B:P_258	TVHC	0.0000
B:P_259	A	0.0000
B:P_259	W	0.0000
B:P_259	C	0.0000
B:P_259	D	0.0000
B:P_259	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/9/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_260	A	0.0000
B:P_260	W	0.0000
B:P_260	C	0.0000
B:P_260	D	0.0000
B:P_260	TVHC	0.0000
B:P_261	A	0.0000
B:P_261	W	0.0000
B:P_261	C	0.0000
B:P_261	D	0.0000
B:P_261	TVHC	0.0000
B:P_262	A	0.0000
B:P_262	W	0.0000
B:P_262	C	0.0000
B:P_262	D	0.0000
B:P_262	TVHC	0.0000
B:P_263	A	0.0000
B:P_263	W	0.0000
B:P_263	C	0.0000
B:P_263	D	0.0000
B:P_263	TVHC	0.0000
B:P_264	A	0.0000
B:P_264	W	0.0000
B:P_264	C	0.0000
B:P_264	D	0.0000
B:P_264	TVHC	0.0000
B:P_265	A	0.0000
B:P_265	W	0.0000
B:P_265	C	0.0000
B:P_265	D	0.0000
B:P_265	TVHC	0.0000
B:P_266	A	0.0000
B:P_266	W	0.0000
B:P_266	C	0.0000
B:P_266	D	0.0000
B:P_266	TVHC	0.0000
B:P_267	A	0.0000
B:P_267	W	0.0000
B:P_267	C	0.0000
B:P_267	D	0.0000
B:P_267	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/9/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_268	A	0.0000
B:P_268	W	0.0000
B:P_268	C	0.0000
B:P_268	D	0.0000
B:P_268	TVHC	0.0000
B:P_269	A	0.0000
B:P_269	W	0.0000
B:P_269	C	0.0000
B:P_269	D	0.0000
B:P_269	TVHC	0.0000
B:P_270	A	0.0000
B:P_270	W	0.0000
B:P_270	C	0.0000
B:P_270	D	0.0000
B:P_270	TVHC	0.0000
B:P_271	A	0.0000
B:P_271	W	0.0000
B:P_271	C	0.0000
B:P_271	D	0.0000
B:P_271	TVHC	0.0000
B:P_272	A	0.0000
B:P_272	W	0.0000
B:P_272	C	0.0000
B:P_272	D	0.0000
B:P_272	TVHC	0.0000
B:P_273	A	0.0000
B:P_273	W	0.0000
B:P_273	C	0.0000
B:P_273	D	0.0000
B:P_273	TVHC	0.0000
B:P_274	A	0.0000
B:P_274	W	0.0000
B:P_274	C	0.0000
B:P_274	D	0.0000
B:P_274	TVHC	0.0000
B:P_275	A	0.0000
B:P_275	W	0.0000
B:P_275	C	0.0000
B:P_275	D	0.0000
B:P_275	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/9/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_276	A	0.0000
B:P_276	W	0.0000
B:P_276	C	0.0000
B:P_276	D	0.0000
B:P_276	TVHC	0.0000
B:P_277	A	0.0000
B:P_277	W	0.0000
B:P_277	C	0.0000
B:P_277	D	0.0000
B:P_277	TVHC	0.0000
B:P_278	A	0.0000
B:P_278	W	0.0000
B:P_278	C	0.0000
B:P_278	D	0.0000
B:P_278	TVHC	0.0000
B:P_279	A	0.0000
B:P_279	W	0.0000
B:P_279	C	0.0000
B:P_279	D	0.0000
B:P_279	TVHC	0.0000
B:P_280	A	0.0000
B:P_280	W	0.0000
B:P_280	C	0.0000
B:P_280	D	0.0000
B:P_280	TVHC	0.0000
B:P_281	A	0.0000
B:P_281	W	0.0000
B:P_281	C	0.0000
B:P_281	D	0.0000
B:P_281	TVHC	0.0000
B:P_282	A	0.0000
B:P_282	W	0.0000
B:P_282	C	0.0000
B:P_282	D	0.0000
B:P_282	TVHC	0.0000
B:P_283	A	0.0000
B:P_283	W	0.0000
B:P_283	C	0.0000
B:P_283	D	0.0000
B:P_283	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/9/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_284	A	0.0000
B:P_284	W	0.0000
B:P_284	C	0.0000
B:P_284	D	0.0000
B:P_284	TVHC	0.0000
B:P_285	A	0.0000
B:P_285	W	0.0000
B:P_285	C	0.0000
B:P_285	D	0.0000
B:P_285	TVHC	0.0000
B:P_286	A	0.0000
B:P_286	W	0.0000
B:P_286	C	0.0000
B:P_286	D	0.0000
B:P_286	TVHC	0.0000
B:P_287	A	0.0000
B:P_287	W	0.0000
B:P_287	C	0.0000
B:P_287	D	0.0000
B:P_287	TVHC	0.0000
B:P_288	A	0.0000
B:P_288	W	0.0000
B:P_288	C	0.0000
B:P_288	D	0.0000
B:P_288	TVHC	0.0000
B:P_289	A	0.0000
B:P_289	W	0.0000
B:P_289	C	0.0000
B:P_289	D	0.0000
B:P_289	TVHC	0.0000
B:P_290	A	0.0000
B:P_290	W	0.0000
B:P_290	C	0.0000
B:P_290	D	0.0000
B:P_290	TVHC	0.0000
B:P_291	A	0.0000
B:P_291	W	0.0000
B:P_291	C	0.0000
B:P_291	D	0.0000
B:P_291	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/9/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_292	A	0.0000
B:P_292	W	0.0000
B:P_292	C	0.0000
B:P_292	D	0.0000
B:P_292	TVHC	0.0000
B:P_293	A	0.0000
B:P_293	W	0.0000
B:P_293	C	0.0000
B:P_293	D	0.0000
B:P_293	TVHC	0.0000
B:P_294	A	0.0000
B:P_294	W	0.0000
B:P_294	C	0.0000
B:P_294	D	0.0000
B:P_294	TVHC	0.0000
B:P_295	A	0.0000
B:P_295	W	0.0000
B:P_295	C	0.0000
B:P_295	D	0.0000
B:P_295	TVHC	0.0000
B:P_296	A	0.0000
B:P_296	W	0.0000
B:P_296	C	0.0000
B:P_296	D	0.0000
B:P_296	TVHC	0.0000
B:P_297	A	0.0000
B:P_297	W	0.0000
B:P_297	C	0.0000
B:P_297	D	0.0000
B:P_297	TVHC	0.0000
B:P_298	A	0.0000
B:P_298	W	0.0000
B:P_298	C	0.0000
B:P_298	D	0.0000
B:P_298	TVHC	0.0000
B:P_299	A	0.0000
B:P_299	W	0.0000
B:P_299	C	0.0000
B:P_299	D	0.0000
B:P_299	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/9/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_300	A	0.0000
B:P_300	W	0.0000
B:P_300	C	0.0000
B:P_300	D	0.0000
B:P_300	TVHC	0.0000
B:P_301	A	0.0000
B:P_301	W	0.0000
B:P_301	C	0.0000
B:P_301	D	0.0000
B:P_301	TVHC	0.0000
B:P_302	A	0.0000
B:P_302	W	0.0000
B:P_302	C	0.0000
B:P_302	D	0.0000
B:P_302	TVHC	0.0000
B:P_303	A	0.0000
B:P_303	W	0.0000
B:P_303	C	0.0000
B:P_303	D	0.0000
B:P_303	TVHC	0.0000
B:P_304	A	0.0000
B:P_304	W	0.0000
B:P_304	C	0.0000
B:P_304	D	0.0000
B:P_304	TVHC	0.0000
B:P_305	A	0.0000
B:P_305	W	0.0000
B:P_305	C	0.0000
B:P_305	D	0.0000
B:P_305	TVHC	0.0000
B:P_306	A	0.0000
B:P_306	W	0.0000
B:P_306	C	0.0000
B:P_306	D	0.0000
B:P_306	TVHC	0.0000
B:P_307	A	0.0000
B:P_307	W	0.0000
B:P_307	C	0.0000
B:P_307	D	0.0000
B:P_307	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/900
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_308	A	0.0000
B:P_308	W	0.0000
B:P_308	C	0.0000
B:P_308	D	0.0000
B:P_308	TVHC	0.0000
B:P_309	A	0.0000
B:P_309	W	0.0000
B:P_309	C	0.0000
B:P_309	D	0.0000
B:P_309	TVHC	0.0000
B:P_310	A	0.0000
B:P_310	W	0.0000
B:P_310	C	0.0000
B:P_310	D	0.0000
B:P_310	TVHC	0.0000
B:P_311	A	0.0000
B:P_311	W	0.0000
B:P_311	C	0.0000
B:P_311	D	0.0000
B:P_311	TVHC	0.0000
B:P_312	A	0.0000
B:P_312	W	0.0000
B:P_312	C	0.0000
B:P_312	D	0.0000
B:P_312	TVHC	0.0000
B:P_313	A	0.0000
B:P_313	W	0.0000
B:P_313	C	0.0000
B:P_313	D	0.0000
B:P_313	TVHC	0.0000
B:P_314	A	0.0000
B:P_314	W	0.0000
B:P_314	C	0.0000
B:P_314	D	0.0000
B:P_314	TVHC	0.0000
B:P_315	A	0.0000
B:P_315	W	0.0000
B:P_315	C	0.0000
B:P_315	D	0.0000
B:P_315	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/9/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_316	A	0.0000
B:P_316	W	0.0000
B:P_316	C	0.0000
B:P_316	D	0.0000
B:P_316	TVHC	0.0000
B:P_317	A	0.0000
B:P_317	W	0.0000
B:P_317	C	0.0000
B:P_317	D	0.0000
B:P_317	TVHC	0.0000
B:P_318	A	0.0000
B:P_318	W	0.0000
B:P_318	C	0.0000
B:P_318	D	0.0000
B:P_318	TVHC	0.0000
B:P_319	A	0.0000
B:P_319	W	0.0000
B:P_319	C	0.0000
B:P_319	D	0.0000
B:P_319	TVHC	0.0000
B:P_320	A	0.0000
B:P_320	W	0.0476
B:P_320	C	0.0000
B:P_320	D	0.0000
B:P_320	TVHC	0.0000
B:P_321	A	0.0000
B:P_321	W	0.0147
B:P_321	C	0.0000
B:P_321	D	0.0000
B:P_321	TVHC	0.0000
B:P_322	A	0.0000
B:P_322	W	0.0000
B:P_322	C	0.0000
B:P_322	D	0.0000
B:P_322	TVHC	0.0000
B:P_323	A	0.0000
B:P_323	W	0.0000
B:P_323	C	0.0000
B:P_323	D	0.0000
B:P_323	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/900
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_324	A	0.0000
B:P_324	W	0.0000
B:P_324	C	0.0000
B:P_324	D	0.0000
B:P_324	TVHC	0.0000
B:P_325	A	0.0000
B:P_325	W	0.0000
B:P_325	C	0.0000
B:P_325	D	0.0000
B:P_325	TVHC	0.0000
B:P_326	A	0.0000
B:P_326	W	0.0000
B:P_326	C	0.0000
B:P_326	D	0.0000
B:P_326	TVHC	0.0000
B:P_327	A	0.0000
B:P_327	W	0.0000
B:P_327	C	0.0000
B:P_327	D	0.0000
B:P_327	TVHC	0.0000
B:P_328	A	0.0000
B:P_328	W	0.0000
B:P_328	C	0.0000
B:P_328	D	0.0000
B:P_328	TVHC	0.0000
B:P_329	A	0.0000
B:P_329	W	0.0000
B:P_329	C	0.0000
B:P_329	D	0.0000
B:P_329	TVHC	0.0000
B:P_330	A	0.0000
B:P_330	W	0.0000
B:P_330	C	0.0000
B:P_330	D	0.0000
B:P_330	TVHC	0.0000
B:P_331	A	0.0000
B:P_331	W	0.0000
B:P_331	C	0.0000
B:P_331	D	0.0000
B:P_331	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/9/00
JOB NO.: 36266-000.P

<u>SAMPLE</u>	<u>COMPOUND</u>	<u>CONCENTRATION</u>
B:P_332	A	0.0000
B:P_332	W	0.0000
B:P_332	C	0.0000
B:P_332	D	0.0000
B:P_332	TVHC	0.0000
B:P_333	A	0.0000
B:P_333	W	0.0000
B:P_333	C	0.0000
B:P_333	D	0.0000
B:P_333	TVHC	0.0000
B:P_334	A	0.0000
B:P_334	W	0.0000
B:P_334	C	0.0000
B:P_334	D	0.0000
B:P_334	TVHC	0.0000
B:P_335	A	0.0000
B:P_335	W	0.0000
B:P_335	C	0.0000
B:P_335	D	0.0000
B:P_335	TVHC	0.0000
B:P_336	A	0.0000
B:P_336	W	0.0000
B:P_336	C	0.0000
B:P_336	D	0.0000
B:P_336	TVHC	0.0000
B:P_337	A	0.0000
B:P_337	W	0.0000
B:P_337	C	0.0000
B:P_337	D	0.0000
B:P_337	TVHC	0.0000
B:P_338	A	0.0000
B:P_338	W	0.0000
B:P_338	C	0.0000
B:P_338	D	0.0000
B:P_338	TVHC	0.0000
B:P_339	A	0.0000
B:P_339	W	0.0000
B:P_339	C	0.0000
B:P_339	D	0.0000
B:P_339	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/9/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_340	A	0.0000
B:P_340	W	0.0000
B:P_340	C	0.0000
B:P_340	D	0.0000
B:P_340	TVHC	0.0000
B:P_341	A	0.0000
B:P_341	W	0.0000
B:P_341	C	0.0000
B:P_341	D	0.0000
B:P_341	TVHC	0.0000
B:P_342	A	0.0000
B:P_342	W	0.0000
B:P_342	C	0.0000
B:P_342	D	0.0000
B:P_342	TVHC	0.0000
B:P_343	A	0.0000
B:P_343	W	0.0000
B:P_343	C	0.0000
B:P_343	D	0.0000
B:P_343	TVHC	0.0000
B:P_344	A	0.0000
B:P_344	W	0.0000
B:P_344	C	0.0000
B:P_344	D	0.0000
B:P_344	TVHC	0.0000
B:P_345	A	0.0000
B:P_345	W	0.0000
B:P_345	C	0.0000
B:P_345	D	0.0000
B:P_345	TVHC	0.0000
B:P_346	A	0.0000
B:P_346	W	0.0000
B:P_346	C	0.0000
B:P_346	D	0.0000
B:P_346	TVHC	0.0000
B:P_347	A	0.0000
B:P_347	W	0.0000
B:P_347	C	0.0000
B:P_347	D	0.0000
B:P_347	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/9/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_348	A	0.0000
B:P_348	W	0.0000
B:P_348	C	0.0000
B:P_348	D	0.0000
B:P_348	TVHC	0.0000
B:P_349	A	0.0000
B:P_349	W	0.0000
B:P_349	C	0.0000
B:P_349	D	0.0107
B:P_349	TVHC	0.0000
B:P_350	A	0.0000
B:P_350	W	0.0000
B:P_350	C	0.0000
B:P_350	D	0.0228
B:P_350	TVHC	0.0000
B:P_351	A	0.0000
B:P_351	W	0.0000
B:P_351	C	0.0000
B:P_351	D	0.1865
B:P_351	TVHC	0.0000
B:P_352	A	0.0000
B:P_352	W	0.0000
B:P_352	C	0.0000
B:P_352	D	0.0000
B:P_352	TVHC	0.0000
B:P_353	A	0.0000
B:P_353	W	0.0000
B:P_353	C	0.0000
B:P_353	D	0.0000
B:P_353	TVHC	0.0000
B:P_354	A	0.0000
B:P_354	W	0.0000
B:P_354	C	0.0000
B:P_354	D	0.0000
B:P_354	TVHC	0.0000
B:P_355	A	0.0000
B:P_355	W	0.0000
B:P_355	C	0.0000
B:P_355	D	0.0000
B:P_355	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/900
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_356	A	0.0000
B:P_356	W	0.0000
B:P_356	C	0.0000
B:P_356	D	0.0000
B:P_356	TVHC	0.0000
B:P_357	A	0.0000
B:P_357	W	0.0000
B:P_357	C	0.0000
B:P_357	D	0.0000
B:P_357	TVHC	0.0000
B:P_358	A	0.0000
B:P_358	W	0.0000
B:P_358	C	0.0000
B:P_358	D	0.0000
B:P_358	TVHC	0.0000
B:P_359	A	0.0000
B:P_359	W	0.0000
B:P_359	C	0.0000
B:P_359	D	0.0000
B:P_359	TVHC	0.0000
B:P_360	A	0.0000
B:P_360	W	0.0000
B:P_360	C	0.0000
B:P_360	D	0.0000
B:P_360	TVHC	0.0000
B:P_361	A	0.0000
B:P_361	W	0.0000
B:P_361	C	0.0000
B:P_361	D	0.0000
B:P_361	TVHC	0.0000
B:P_362	A	0.0000
B:P_362	W	0.0000
B:P_362	C	0.0000
B:P_362	D	0.0000
B:P_362	TVHC	0.0000
B:P_363	A	0.0000
B:P_363	W	0.0000
B:P_363	C	0.0000
B:P_363	D	0.0000
B:P_363	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/90
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_364	A	0.0000
B:P_364	W	0.0000
B:P_364	C	0.0000
B:P_364	D	0.0000
B:P_364	TVHC	0.0000
B:P_365	A	0.0000
B:P_365	W	0.0000
B:P_365	C	0.0000
B:P_365	D	0.0000
B:P_365	TVHC	0.0000
B:P_366	A	0.0000
B:P_366	W	0.0000
B:P_366	C	0.0000
B:P_366	D	0.0000
B:P_366	TVHC	0.0000
B:P_367	A	0.0000
B:P_367	W	0.0000
B:P_367	C	0.0000
B:P_367	D	0.0000
B:P_367	TVHC	0.0000
B:P_368	A	0.0000
B:P_368	W	0.0000
B:P_368	C	0.0000
B:P_368	D	0.0000
B:P_368	TVHC	0.0000
B:P_369	A	0.0000
* B:P_369	W	0.0000
B:P_369	C	0.0000
B:P_369	D	0.0000
B:P_369	TVHC	0.0000
B:P_370	A	0.0000
B:P_370	W	0.0000
B:P_370	C	0.0000
B:P_370	D	0.0000
B:P_370	TVHC	0.0000
B:P_371	A	0.0000
B:P_371	W	0.0000
B:P_371	C	0.0000
B:P_371	D	0.0000
B:P_371	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/9/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_372	A	0.0000
B:P_372	W	0.0000
B:P_372	C	0.0000
B:P_372	D	0.0000
B:P_372	TVHC	0.0000
B:P_373	A	0.0000
B:P_373	W	0.0000
B:P_373	C	0.0000
B:P_373	D	0.0000
B:P_373	TVHC	0.0000
B:P_374	A	0.0000
B:P_374	W	0.0000
B:P_374	C	0.0000
B:P_374	D	0.0000
B:P_374	TVHC	0.0000
B:P_375	A	0.0000
B:P_375	W	0.0000
B:P_375	C	0.0000
B:P_375	D	0.0000
B:P_375	TVHC	0.0000
B:P_376	A	0.0000
B:P_376	W	0.0000
B:P_376	C	0.0000
B:P_376	D	0.0000
B:P_376	TVHC	0.0000
B:P_377	A	0.0000
B:P_377	W	0.0000
B:P_377	C	0.0000
B:P_377	D	0.0000
B:P_377	TVHC	0.0000
B:P_378	A	0.0000
B:P_378	W	0.0000
B:P_378	C	0.0000
B:P_378	D	0.0000
B:P_378	TVHC	0.0000
B:P_379	A	0.0000
B:P_379	W	0.0000
B:P_379	C	0.0000
B:P_379	D	0.0000
B:P_379	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/90
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_380	A	0.0000
B:P_380	W	0.0000
B:P_380	C	0.0000
B:P_380	D	0.0000
B:P_380	TVHC	0.0000
B:P_381	A	0.0000
B:P_381	W	0.0000
B:P_381	C	0.0000
B:P_381	D	0.0000
B:P_381	TVHC	0.0000
B:P_382	A	0.0000
B:P_382	W	0.0000
B:P_382	C	0.0000
B:P_382	D	0.0000
B:P_382	TVHC	0.0000
B:P_383	A	0.0000
B:P_383	W	0.0000
B:P_383	C	0.0000
B:P_383	D	0.0000
B:P_383	TVHC	0.0000
B:P_384	A	0.0000
B:P_384	W	0.0000
B:P_384	C	0.0000
B:P_384	D	0.0000
B:P_384	TVHC	0.0000
B:P_385	A	0.0000
B:P_385	W	0.0000
B:P_385	C	0.0000
B:P_385	D	0.0000
B:P_385	TVHC	0.0000
B:P_386	A	0.0000
B:P_386	W	0.0000
B:P_386	C	0.0000
B:P_386	D	0.0000
B:P_386	TVHC	0.0000
B:P_387	A	0.0000
B:P_387	W	0.0000
B:P_387	C	0.0000
B:P_387	D	0.0000
B:P_387	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/90
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_388	A	0.0000
B:P_388	W	0.0000
B:P_388	C	0.0000
B:P_388	D	0.0000
B:P_388	TVHC	0.0000
B:P_389	A	0.0000
B:P_389	W	0.0000
B:P_389	C	0.0000
B:P_389	D	0.0000
B:P_389	TVHC	0.0000
B:P_390	A	0.0000
B:P_390	W	0.0000
B:P_390	C	0.0000
B:P_390	D	0.0000
B:P_390	TVHC	0.0000
B:P_391	A	0.0000
B:P_391	W	0.0000
B:P_391	C	0.0000
B:P_391	D	0.0000
B:P_391	TVHC	0.0000
B:P_392	A	0.0000
B:P_392	W	0.0000
B:P_392	C	0.0000
B:P_392	D	0.0000
B:P_392	TVHC	0.0000
B:P_393	A	0.0000
B:P_393	W	0.0000
B:P_393	C	0.0000
B:P_393	D	0.0000
B:P_393	TVHC	0.0000
B:P_394	A	0.0000
B:P_394	W	0.0000
B:P_394	C	0.0000
B:P_394	D	0.0000
B:P_394	TVHC	0.0000
B:P_395	A	0.0000
B:P_395	W	0.0000
B:P_395	C	0.0000
B:P_395	D	0.0000
B:P_395	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/9/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_396	A	0.0000
B:P_396	W	0.0000
B:P_396	C	0.0000
B:P_396	D	0.0000
B:P_396	TVHC	0.0000
B:P_397	A	0.0000
B:P_397	W	0.0000
B:P_397	C	0.0000
B:P_397	D	0.0000
B:P_397	TVHC	0.0000
B:P_398	A	0.0000
B:P_398	W	0.0000
B:P_398	C	0.0000
B:P_398	D	0.0000
B:P_398	TVHC	0.0000
B:P_399	A	0.0000
B:P_399	W	0.0000
B:P_399	C	0.0000
B:P_399	D	0.0000
B:P_399	TVHC	0.0000
B:P_400	A	0.0000
B:P_400	W	0.0000
B:P_400	C	0.0000
B:P_400	D	0.0000
B:P_400	TVHC	0.0000
B:P_401	A	0.0000
B:P_401	W	0.0000
B:P_401	C	0.0000
B:P_401	D	0.0000
B:P_401	TVHC	0.0000
B:P_402	A	0.0000
B:P_402	W	0.0000
B:P_402	C	0.0000
B:P_402	D	0.0000
B:P_402	TVHC	0.0000
B:P_403	A	0.0000
B:P_403	W	0.0000
B:P_403	C	0.0000
B:P_403	D	0.0000
B:P_403	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/9/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_404	A	0.0000
B:P_404	W	0.0000
B:P_404	C	0.0000
B:P_404	D	0.0000
B:P_404	TVHC	0.0000
B:P_405	A	0.0000
B:P_405	W	0.0000
B:P_405	C	0.0000
B:P_405	D	0.0000
B:P_405	TVHC	0.0000
B:P_406	A	0.0000
B:P_406	W	0.0000
B:P_406	C	0.0000
B:P_406	D	0.0000
B:P_406	TVHC	0.0000
B:P_407	A	0.0000
B:P_407	W	0.0000
B:P_407	C	0.0000
B:P_407	D	0.0000
B:P_407	TVHC	0.0000
B:P_408	A	0.0000
B:P_408	W	0.0000
B:P_408	C	0.0000
B:P_408	D	0.0000
B:P_408	TVHC	0.0000
B:P_409	A	0.0000
B:P_409	W	0.0000
B:P_409	C	0.0000
B:P_409	D	0.0000
B:P_409	TVHC	0.0000
B:P_410	A	0.0000
B:P_410	W	0.0000
B:P_410	C	0.0000
B:P_410	D	0.0000
B:P_410	TVHC	0.0000
B:P_411	A	0.0000
B:P_411	W	0.0000
B:P_411	C	0.0000
B:P_411	D	0.0000
B:P_411	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/9/00
JOB NO.: 36266-000.P

<u>SAMPLE</u>	<u>COMPOUND</u>	<u>CONCENTRATION</u>
B:P_412	A	0.0000
B:P_412	W	0.0000
B:P_412	C	0.0000
B:P_412	D	0.0000
B:P_412	TVHC	0.0000
B:P_413	A	0.0000
B:P_413	W	0.0000
B:P_413	C	0.0000
B:P_413	D	0.0000
B:P_413	TVHC	0.0000
B:P_414	A	0.0000
B:P_414	W	0.0000
B:P_414	C	0.0000
B:P_414	D	0.0000
B:P_414	TVHC	0.0000
B:P_415	A	0.0000
B:P_415	W	0.0000
B:P_415	C	0.0000
B:P_415	D	0.0000
B:P_415	TVHC	0.0000
B:P_416	A	0.0000
B:P_416	W	0.0000
B:P_416	C	0.0000
B:P_416	D	0.0000
B:P_416	TVHC	0.0000
B:P_417	A	0.0000
B:P_417	W	0.0000
B:P_417	C	0.0000
B:P_417	D	0.0000
B:P_417	TVHC	0.0000
B:P_418	A	0.0000
B:P_418	W	0.0000
B:P_418	C	0.0000
B:P_418	D	0.0000
B:P_418	TVHC	0.0000
B:P_419	A	0.0000
B:P_419	W	0.0000
B:P_419	C	0.0000
B:P_419	D	0.0000
B:P_419	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/9/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_420	A	0.0000
B:P_420	W	0.0000
B:P_420	C	0.0000
B:P_420	D	0.0000
B:P_420	TVHC	0.0000
B:P_421	A	0.0000
B:P_421	W	0.0000
B:P_421	C	0.0000
B:P_421	D	0.0000
B:P_421	TVHC	0.0000
B:P_422	A	0.0000
B:P_422	W	0.0000
B:P_422	C	0.0000
B:P_422	D	0.0000
B:P_422	TVHC	0.0000
B:P_423	A	0.0000
B:P_423	W	0.0000
B:P_423	C	0.0000
B:P_423	D	0.0000
B:P_423	TVHC	0.0000
B:P_424	A	0.0000
B:P_424	W	0.0000
B:P_424	C	0.0000
B:P_424	D	0.0000
B:P_424	TVHC	0.0000
B:P_425	A	0.0000
B:P_425	W	0.0000
B:P_425	C	0.0000
B:P_425	D	0.0000
B:P_425	TVHC	0.0000
B:P_426	A	0.0000
B:P_426	W	0.0000
B:P_426	C	0.0000
B:P_426	D	0.0000
B:P_426	TVHC	0.0000
B:P_427	A	0.0000
B:P_427	W	0.0000
B:P_427	C	0.0000
B:P_427	D	0.0000
B:P_427	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/90
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_428	A	0.0000
B:P_428	W	0.0000
B:P_428	C	0.0000
B:P_428	D	0.0000
B:P_428	TVHC	0.0000
B:P_429	A	0.0000
B:P_429	W	0.0000
B:P_429	C	0.0000
B:P_429	D	0.0000
B:P_429	TVHC	0.0000
B:P_430	A	0.0000
B:P_430	W	0.0000
B:P_430	C	0.0000
B:P_430	D	0.0000
B:P_430	TVHC	0.0000
B:P_431	A	0.0000
B:P_431	W	0.0000
B:P_431	C	0.0000
B:P_431	D	0.0000
B:P_431	TVHC	0.0000
B:P_432	A	0.0000
B:P_432	W	0.0000
B:P_432	C	0.0000
B:P_432	D	0.0000
B:P_432	TVHC	0.0000
B:P_433	A	0.0000
B:P_433	W	0.0000
B:P_433	C	0.0000
B:P_433	D	0.0000
B:P_433	TVHC	0.0000
B:P_434	A	0.0000
B:P_434	W	0.0000
B:P_434	C	0.0000
B:P_434	D	0.0000
B:P_434	TVHC	0.0000
B:P_435	A	0.0000
B:P_435	W	0.0000
B:P_435	C	0.0000
B:P_435	D	0.0000
B:P_435	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/900
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_436	A	0.0000
B:P_436	W	0.0000
B:P_436	C	0.0000
B:P_436	D	0.0000
B:P_436	TVHC	0.0000
B:P_437	A	0.0000
B:P_437	W	0.0000
B:P_437	C	0.0000
B:P_437	D	0.0000
B:P_437	TVHC	0.0000
B:P_438	A	0.0000
B:P_438	W	0.0000
B:P_438	C	0.0000
B:P_438	D	0.0000
B:P_438	TVHC	0.0000
B:P_439	A	0.0000
B:P_439	W	0.0000
B:P_439	C	0.0000
B:P_439	D	0.0000
B:P_439	TVHC	0.0000
B:P_440	A	0.0000
B:P_440	W	0.0000
B:P_440	C	0.0000
B:P_440	D	0.0000
B:P_440	TVHC	0.0000
B:P_441	A	0.0000
B:P_441	W	0.0000
B:P_441	C	0.0000
B:P_441	D	0.0000
B:P_441	TVHC	0.0000
B:P_442	A	0.0000
B:P_442	W	0.0000
B:P_442	C	0.0000
B:P_442	D	0.0000
B:P_442	TVHC	0.0000
B:P_443	A	0.0000
B:P_443	W	0.0000
B:P_443	C	0.0000
B:P_443	D	0.0000
B:P_443	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/900
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_444	A	0.0000
B:P_444	W	0.0000
B:P_444	C	0.0000
B:P_444	D	0.0000
B:P_444	TVHC	0.0000
B:P_445	A	0.0000
B:P_445	W	0.0000
B:P_445	C	0.0000
B:P_445	D	0.0000
B:P_445	TVHC	0.0000
B:P_446	A	0.0000
B:P_446	W	0.0000
B:P_446	C	0.0000
B:P_446	D	0.0000
B:P_446	TVHC	0.0000
B:P_447	A	0.0000
B:P_447	W	0.0000
B:P_447	C	0.0000
B:P_447	D	0.0000
B:P_447	TVHC	0.0000
B:P_448	A	0.0000
B:P_448	W	0.0000
B:P_448	C	0.0000
B:P_448	D	0.0000
B:P_448	TVHC	0.0000
B:P_449	A	0.0000
B:P_449	W	0.0000
B:P_449	C	0.0000
B:P_449	D	0.0000
B:P_449	TVHC	0.0000
B:P_450	A	0.0000
B:P_450	W	0.0000
B:P_450	C	0.0000
B:P_450	D	0.0000
B:P_450	TVHC	0.0000
B:P_451	A	0.0000
B:P_451	W	0.0000
B:P_451	C	0.0000
B:P_451	D	0.0000
B:P_451	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g}/\text{L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/9/00
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_452	A	0.0000
B:P_452	W	0.0000
B:P_452	C	0.0000
B:P_452	D	0.0000
B:P_452	TVHC	0.0000
B:P_453	A	0.0000
B:P_453	W	0.0000
B:P_453	C	0.0000
B:P_453	D	0.0000
B:P_453	TVHC	0.0000
B:P_454	A	0.0000
B:P_454	W	0.0000
B:P_454	C	0.0000
B:P_454	D	0.0000
B:P_454	TVHC	0.0000
B:P_455	A	0.0000
B:P_455	W	0.0000
B:P_455	C	0.0000
B:P_455	D	0.0000
B:P_455	TVHC	0.0000
B:P_456	A	0.0000
B:P_456	W	0.0000
B:P_456	C	0.0000
B:P_456	D	0.0000
B:P_456	TVHC	0.0000
B:P_457	A	0.0000
B:P_457	W	0.0000
B:P_457	C	0.0000
B:P_457	D	0.0000
B:P_457	TVHC	0.0000
B:P_458	A	0.0000
B:P_458	W	0.0000
B:P_458	C	0.0000
B:P_458	D	0.0000
B:P_458	TVHC	0.0000
B:P_459	A	0.0000
B:P_459	W	0.0000
B:P_459	C	0.0000
B:P_459	D	0.0000
B:P_459	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/900
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_460	A	0.0000
B:P_460	W	0.0000
B:P_460	C	0.0000
B:P_460	D	0.0000
B:P_460	TVHC	0.0000
B:P_461	A	0.0000
B:P_461	W	0.0000
B:P_461	C	0.0000
B:P_461	D	0.0000
B:P_461	TVHC	0.0000
B:P_462	A	0.0000
B:P_462	W	0.0000
B:P_462	C	0.0000
B:P_462	D	0.0000
B:P_462	TVHC	0.0000
B:P_463	A	0.0000
B:P_463	W	0.0000
B:P_463	C	0.0000
B:P_463	D	0.0000
B:P_463	TVHC	0.0000
B:P_464	A	0.0000
B:P_464	W	0.0000
B:P_464	C	0.0000
B:P_464	D	0.0000
B:P_464	TVHC	0.0000
B:P_465	A	0.0000
B:P_465	W	0.0000
B:P_465	C	0.0000
B:P_465	D	0.0000
B:P_465	TVHC	0.0000
B:P_466	A	0.0000
B:P_466	W	0.0000
B:P_466	C	0.0000
B:P_466	D	0.0000
B:P_466	TVHC	0.0000
B:P_467	A	0.0000
B:P_467	W	0.0000
B:P_467	C	0.0000
B:P_467	D	0.0000
B:P_467	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/9/00
JOB NO.: 36266-000.P

<u>SAMPLE</u>	<u>COMPOUND</u>	<u>CONCENTRATION</u>
B:P_468	A	0.0000
B:P_468	W	0.0000
B:P_468	C	0.0000
B:P_468	D	0.0000
B:P_468	TVHC	0.0000
B:P_469	A	0.0000
B:P_469	W	0.0000
B:P_469	C	0.0000
B:P_469	D	0.0000
B:P_469	TVHC	0.0000
B:P_470	A	0.0000
B:P_470	W	0.0000
B:P_470	C	0.0000
B:P_470	D	0.0000
B:P_470	TVHC	0.0000
B:P_471	A	0.0000
B:P_471	W	0.0000
B:P_471	C	0.0000
B:P_471	D	0.0000
B:P_471	TVHC	0.0000
B:P_472	A	0.0000
B:P_472	W	0.0000
B:P_472	C	0.0000
B:P_472	D	0.0000
B:P_472	TVHC	0.0000
B:P_473	A	0.0000
B:P_473	W	0.0000
B:P_473	C	0.0000
B:P_473	D	0.0000
B:P_473	TVHC	0.0000
B:P_474	A	0.0000
B:P_474	W	0.0000
B:P_474	C	0.0000
B:P_474	D	0.0000
B:P_474	TVHC	0.0000
B:P_475	A	0.0000
B:P_475	W	0.0000
B:P_475	C	0.0000
B:P_475	D	0.0000
B:P_475	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deer Park Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/90
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_476	A	0.0000
B:P_476	W	0.0000
B:P_476	C	0.0000
B:P_476	D	0.0000
B:P_476	TVHC	0.0000
B:P_477	A	0.0000
B:P_477	W	0.0000
B:P_477	C	0.0000
B:P_477	D	0.0000
B:P_477	TVHC	0.0000
B:P_478	A	0.0000
B:P_478	W	0.0000
B:P_478	C	0.0000
B:P_478	D	0.0000
B:P_478	TVHC	0.0000
B:P_479	A	0.0000
B:P_479	W	0.0000
B:P_479	C	0.0000
B:P_479	D	0.0000
B:P_479	TVHC	0.0000
B:P_480	A	0.0000
B:P_480	W	0.0000
B:P_480	C	0.0000
B:P_480	D	0.0000
B:P_480	TVHC	0.0000
B:P_481	A	0.0000
B:P_481	W	0.0000
B:P_481	C	0.0000
B:P_481	D	0.0000
B:P_481	TVHC	0.0000
B:P_482	A	0.0000
B:P_482	W	0.0000
B:P_482	C	0.0000
B:P_482	D	0.0000
B:P_482	TVHC	0.0000
B:P_483	A	0.0000
B:P_483	W	0.0000
B:P_483	C	0.0000
B:P_483	D	0.0000
B:P_483	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/90
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_484	A	0.0000
B:P_484	W	0.0000
B:P_484	C	0.0000
B:P_484	D	0.0000
B:P_484	TVHC	0.0000
B:P_485	A	0.0000
B:P_485	W	0.0000
B:P_485	C	0.0000
B:P_485	D	0.0000
B:P_485	TVHC	0.0000
B:P_486	A	0.0000
B:P_486	W	0.0000
B:P_486	C	0.0000
B:P_486	D	0.0000
B:P_486	TVHC	0.0000
B:P_487	A	0.0000
B:P_487	W	0.0000
B:P_487	C	0.0000
B:P_487	D	0.0000
B:P_487	TVHC	0.0000
B:P_488	A	0.0000
B:P_488	W	0.0000
B:P_488	C	0.0000
B:P_488	D	0.0000
B:P_488	TVHC	0.0000
B:P_489	A	0.0000
B:P_489	W	0.0000
B:P_489	C	0.0000
B:P_489	D	0.0000
B:P_489	TVHC	0.0000
B:P_490	A	0.0000
B:P_490	W	0.0000
B:P_490	C	0.0000
B:P_490	D	0.0000
B:P_490	TVHC	0.0000
B:P_491	A	0.0000
B:P_491	W	0.0000
B:P_491	C	0.0000
B:P_491	D	0.0000
B:P_491	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/9/00
JOB NO.: 36266-000.P

<u>SAMPLE</u>	<u>COMPOUND</u>	<u>CONCENTRATION</u>
B:P_492	A	0.0000
B:P_492	W	0.0000
B:P_492	C	0.0000
B:P_492	D	0.0000
B:P_492	TVHC	0.0000
B:P_493	A	0.0000
B:P_493	W	0.0000
B:P_493	C	0.0000
B:P_493	D	0.0000
B:P_493	TVHC	0.0000
B:P_494	A	0.0000
B:P_494	W	0.0000
B:P_494	C	0.0000
B:P_494	D	0.0000
B:P_494	TVHC	0.0000
B:P_495	A	0.0000
B:P_495	W	0.0000
B:P_495	C	0.0000
B:P_495	D	0.0000
B:P_495	TVHC	0.0000
B:P_496	A	0.0000
B:P_496	W	0.0000
B:P_496	C	0.0000
B:P_496	D	0.0000
B:P_496	TVHC	0.0000
B:P_497	A	0.0000
B:P_497	W	0.0000
B:P_497	C	0.0000
B:P_497	D	0.0000
B:P_497	TVHC	0.0000
B:P_498	A	0.0000
B:P_498	W	0.0000
B:P_498	C	0.0000
B:P_498	D	0.0000
B:P_498	TVHC	0.0000
B:P_499	A	0.0000
B:P_499	W	0.0000
B:P_499	C	0.0000
B:P_499	D	0.0000
B:P_499	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Drive, Suite G
Monmouth Junction, NJ 08852

CLIENT: LOUREIRO ENGINEERING
SITE: PRATT & WHITNEY / EAST HARTFORD, CT
DATE: 12/2/900
JOB NO.: 36266-000.P

SAMPLE	COMPOUND	CONCENTRATION
B:P_500	A	0.0000
B:P_500	W	0.0000
B:P_500	C	0.0000
B:P_500	D	0.0000
B:P_500	TVHC	0.0000
B:P_501	A	0.0000
B:P_501	W	0.0000
B:P_501	C	0.0000
B:P_501	D	0.0000
B:P_501	TVHC	0.0000
B:P_502	A	0.0000
B:P_502	W	0.0000
B:P_502	C	0.0000
B:P_502	D	0.0000
B:P_502	TVHC	0.0000
B:P_503	A	0.0000
B:P_503	W	0.0000
B:P_503	C	0.0000
B:P_503	D	0.0000
B:P_503	TVHC	0.0000
B:P_504	A	0.0000
B:P_504	W	0.0000
B:P_504	C	0.0000
B:P_504	D	0.0000
B:P_504	TVHC	0.0000
B:P_505	A	0.0000
B:P_505	W	0.0000
B:P_505	C	0.0000
B:P_505	D	0.0000
B:P_505	TVHC	0.0000
B:P_506	A	0.0000
B:P_506	W	0.0000
B:P_506	C	0.0000
B:P_506	D	0.0000
B:P_506	TVHC	0.0000
B:P_507	A	0.0000
B:P_507	W	0.0000
B:P_507	C	0.0000
B:P_507	D	0.0000
B:P_507	TVHC	0.0000

0.0000 = Non Detect

Tracer concentrations are reported in micrograms per liter ($\mu\text{g/L}$)
TVHC concentrations are reported in milligrams per liter (mg/L)

Tracer Research Corp.
1 Deerpark Rd. Ste.G
Monmouth Jct., NJ 08852

Client/Site: LOUREIRO ENG-PRATT&WHITNEY-HARTFORD,CT.

Date: 01/30/2001

Analyst: H.BRAULT

Job Number: 36266-000.P

D

SAMPLE

µg/L

VERIFICATION	35
BAG&349	0.01
BAG349HS	<0.002
BAG350HS	<0.002
350-351A#1	<0.002
350-351A#2	<0.002
350-351 A #3	<0.002
350-351 A BAG	<0.002
351 BAGGED	<0.002
351-352 #1	<0.002
348	<0.002
352	<0.002
353	<0.002

Tracer Research Corp.
1 Deerpark Rd. Ste.G
Monmouth Jct., NJ 08852

Client/Site: LOUREIRO/PRATT&WHITNEY/E.HARTFORD,CT.

Date: 01/31/2001

Analyst: H.BRAULT

Job Number: 36266-000.P

SAMPLE	W µg/L	D µg/L
AB	<0.001	<0.005
349	<0.0003	<0.001
349A-BAG	<0.0003	<0.001
349B-BAG	<0.0003	<0.001
349C-BAG	<0.0003	<0.001
350BAG	<0.0003	<0.001
350-351A#1	<0.0003	<0.001
350-351A#2	<0.0003	<0.001
350-351A#3	<0.0003	<0.001
351A	<0.0003	<0.001
351A-351#1	<0.0003	<0.001
351A-351#2	<0.0003	<0.001
351BAG	<0.0003	<0.001
351-352	<0.0003	<0.001
352	<0.0001	<0.0006
353	<0.0001	<0.0006
217	0.010	<0.0006
350BAGRESAM	<0.0001	<0.0006
351ABAGRESA	<0.0001	<0.0006
3	1	<0.02
349A@PATCH	<0.001	<0.005

Tracer Research Corp.
1 Deerpark Rd. Ste.G
Monmouth Jct., NJ 08852

Client/Site: LOURIERO/PRATT&WHITNEY/E.HARTFORD,CT

Date: 02/02/2001

Analyst: H.BRAULT

Job Number: 36266-000.P

C

SAMPLE	µg/L
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TRACER C @S	10
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TRACER C @C	4
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Tracer Research Corp.
1 Deerpark Rd. Ste.G
Monmouth Jct., NJ 08852

Client/Site: LOURIERO-PRATT&WHITNEY/E.HARTFORD,CT

Date: 02/08/2001

Analyst: H.BRAULT

Job Number: 36266-000.P

SAMPLE	C µg/L	D µg/L
AB RESHOOT	<0.0003	<0.0009
PUMPHSE SUM	0.04	0.06
349	<0.0003	<0.0009
349A	<0.0003	<0.0009
349A RESHOO	<0.0003	<0.0009
349B	<0.0003	<0.0009
350	<0.0003	<0.0009
350-351A#1	<0.0003	<0.0009
350-351A#2	<0.0003	<0.0009
351A	<0.0003	<0.0009
351A-351#1	<0.0003	<0.0009
351A-351#2	<0.0003	<0.0009
351A-351#3	<0.0003	<0.0009
351	<0.0003	<0.0009
351-352	<0.0003	<0.0009
352	<0.0003	<0.0009
353	<0.0003	<0.0009
347	<0.0003	<0.0009
347RESHOOT	<0.0003	<0.0009
346	<0.0003	<0.0009